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THE INFANTRY SCOUT

CAPT. F. S. MONTAGUE-BATES

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THE
INFANTRY SCOUT

AN OUTLINE OF HIS TRAINING

BY

CAPTAIN F. S. MONTAGUE-BATES

THE EAST SURREY REGIMENT

LATE SCOUT-OFFICER : EAST SURREY REGIMENT,

ROYAL CANADIAN REGIMENT, ETC.

FOURTH EDITION

LONDON

HUGH REES, LTD.

5, REGENT STREET, S.W.

1916

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TO

COLONEL SAM HUGHES

22APCLS

Apr. 19, 1918 38-2d. 4.

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PREFACE TO SECOND EDITION

IT is very pleasing to find that a second edition of this small book is so soon required. Nothing more is claimed for this edition than for the last. The book has been brought up to date. Five chapters have been added, and many additions made, the chief feature being a short chapter on Scout Aeroplanes by Grahame White. It is hoped, in case these notes for training cannot all be carried out, that Scout Officers will at any rate try a modified form of training on the lines suggested in this book.

For those officers, N.C.O.'s, and men who have limited time at their disposal for training attention is drawn to Chapter IX., which should be carefully studied.

The importance of Scouting has been brought out in the present war, and it is all-important that Scouts should be *carefully trained*.

F. S. M.-B.

THE EAST SURREY REGT.

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PREFACE TO FIRST EDITION

MANY excellent books have been written on scouting, but the writer does not claim to be a Burnham or Baden-Powell. In fact, no originality is claimed for many of his notes, which have largely been compiled from various text-books. His one idea is to evolve a uniform method of training Infantry Scouts, which it is hoped will not only be beneficial to the Service all over our vast Empire, but will also help the Scout Officer to carry out the Regulations more easily, and overcome the many difficulties which beset his path.

In some Militia and Territorial regiments the training of Scouts is practically omitted altogether.

The Militia regiments in Canada and Australia would do well to take up this important

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branch more seriously. These few lines may also be of some assistance to them.

In appreciation of the many kindnesses received from all ranks of the Canadian Forces whilst serving with them, I have much pleasure in dedicating this book to the Honourable the Minister of Militia, Colonel Sam Hughes.

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THE INFANTRY SCOUT

PART I

CHAPTER I

DIFFERENCE BETWEEN SCOUTING AND SKIRMISHING

BATTALION Scouts are trained for one purpose only, and that is for "gaining information." A highly trained Scout cannot be taught his multifarious duties in a day; his training takes years, and must be continuous, and consequently one cannot afford to use these highly trained men in the Skirmishing line. When their work has been carried out, and their reports sent in, let them rest, if possible, until they are required again for perhaps still more arduous work. A Scout should rest at every opportunity, but don't use him as a Skirmisher. Let your Company Scouts act as Skirmishers if you wish, but never the Battalion Scouts.

Skirmishing consists in a number of men

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fighting to attain a common object, each man thinking and acting for himself, but in support of his comrades. Skirmishers are trained to act independently when control has been lost, and continue to do so until control is regained by their officers; they are then not considered as Skirmishers. Scouts move in small numbers to avoid being seen; Skirmishers may move in large numbers. Skirmishers fight independently; Scouts gain information, and only fight for self-preservation.

How often one sees the Battalion Scouts used as Skirmishers, and how often one hears on manœuvres, "If it had not been for these Scouts, we should have done so-and-so." The fact of the matter is, Scouting is confused with Skirmishing, and the sooner the difference is understood, the better it will be for the Battalion Scouts of the future.

Company Scouts act as Ground Scouts, their special duty being to—

1. Locate obstacles to the advance.
2. To select the best line of advance.

Your Battalion Scouts may be used for this work, but it should be unnecessary, as the

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second-class Scouts should be quite well enough trained to carry out that duty. Company Scouts must also be trained to observe approach of aeroplanes. (See Chapter XXVI.)

On manœuvres, or at any time when the Battalion is training, let the Battalion Scouts fall in at the head of the main body, so that the Commanding Officer may be able to use them at once when required. On route marches they can always lead the Regiment, on night marches they can lead the column; but, once again, do remember that you cannot spare these men, who have had such a high training, to act as Skirmishers, or for any other duty excepting that of gaining information.

CHAPTER II

SELECTION OF THE SCOUT OFFICER AND NON-COMMISSIONED OFFICER

THE careful selection of the Scout Officer is of the utmost importance. On him depends the efficiency or otherwise of the Battalion Scouts. It often happens that many changes in Scout Officers are made in a very few months, to the detriment of the Scouts' training; in fact, one

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can go further than that and say that it is absolutely impossible to train Scouts properly (as they should be trained) with this continual chopping and changing about of the Scout Officer. The Commanding Officer must make up his mind to give up his very best officer for this work, and let this officer stay with the Scouts for two years at the least. In addition to the Scout Officer, there should always be an understudy, ready to take the Scout Officer's place in case of emergency, and at any rate this assistant should be so well trained that at any time after one year's training he should be qualified and ready to take over a class if required to do so. The Commanding Officer who encourages sport, hunting, etc., in his Regiment should easily be able to pick out the most likely officer for Scouting purposes. There is usually to be found in the Regiment at least one officer who has an eye for country and natural aptitude for sketching, is keen on the subject of Scouting, and a good sportsman and soldier all round. This is the type of officer that should be selected more or less permanently for this most important position.

When the Scout Officer has been selected, he

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should be struck off all other duties. If he carries out his work properly, he will have no time for parades or orderly duties. He should be tactful, and be very careful not to teach his men to "run" before they can "walk." Perhaps at some future time it may be considered necessary to increase the establishment of officers, so that the Scout Officer will then always be free, as he should be, to train men in peace-time for this all-important work in time of war. (See p. 198.)

The Assistant Scout Officer must be carefully trained by the Scout Officer. It will be impossible to get this officer off all other duties, so he must pick up the work as opportunity occurs.

The selection of the N.C.O. is almost as important as that of the officer, and he should be the pick of the Battalion—an intelligent, active man, keen on the work, an expert in map-reading, and thoroughly conversant with all the work (laid down in "Infantry Training") that the Scout has to master.

This N.C.O. having been selected, he should be struck off all other duties in order to give the whole of his time to the instruction of the Scout and the carrying out of the Scout Officer's instructions. He should be left with the Battalion

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Scouts for at least two years. He should have as his understudy one of the Scouts (selected after one year's training) to take his place in case of emergency, or, if necessary, to take it permanently. It is just as important to keep this N.C.O. permanently with the Scouts (two years) as it is to keep the Scout Officer there. (With reference to pay and promotion, see Chapter VII.)

CHAPTER III

GENERAL REMARKS ON THE SYSTEM OF TRAINING SCOUTS AND THE DIFFICULTIES TO BE CONTENDED WITH

SCOUTING is of the utmost importance in war; therefore the training of Scouts in peace-time is most essential. In the South African War there were many instances of bad Scouting (too well known to be repeated here), and many regrettable incidents in consequence. Since 1902 the training of Scouts has received much more attention than was previously the case. The Russo-Japanese War again brought out the importance of Scouting.

In the present war, although aircraft has been

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used on all sides for reconnoitring purposes, it has in no way diminished the importance of Infantry Scouting; in fact, it has been proved over and over again that well-trained Scouts are invaluable.

According to Regulations,* each Line Regiment in the British Army should have 9 N.C.O.'s and 64 men in training as Scouts; of these, 1 N.C.O. and 16 men should be classified annually as first-class Scouts, the remaining 8 N.C.O.'s and 48 men (1 N.C.O. and 6 men per Company) as second-class Scouts. To quote "Infantry Training, 1911," p. 184, "Company Commanders are responsible for the preliminary selection and training of Scouts. At least 1 N.C.O. and 6 privates will always be in training in each Company. Of these, the best N.C.O. and 16 privates in the Battalion will be selected annually at the end of the course of Company Training, and will then receive further training under a selected officer as Battalion Scouts. As soon as the Battalion Scouts have been selected, their places will be filled in the

* "Infantry Training, 1911." These Regulations are quoted as there are still some units working on the Single-Company organization.

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Companies, so that each Company will always have its full complement under training."

These Regulations are excellent, but the question is, Can they be carried out? Is it possible to carry them out? The average number of a single Company at Field Training at home is about 40,* possibly less in some regiments; if 1 N.C.O. and 6 men are taken away to train as Scouts, bang goes almost a section at once, so it is little wonder that the training of the Company Scouts is neglected. When not training, how many duty-men can a Company Commander lay his hands on to lecture, drill, etc.? Usually one or two, sometimes six, possibly a dozen. The Company Scouts he tried to train on Company Training, etc., have disappeared: the Quartermaster has got one, another is going in for promotion, two others are going to India, one is an officer's servant, and so on. Try how he will, he cannot keep them together. Company Commanders have so many difficulties to contend with in trying to train Company Scouts on the proper lines that eventually they lose all interest in the

* In India conditions are different, the average number of a Single Company at Field Training being 80, possibly more. So there is no difficulty, or should be none, in training Company Scouts in India.

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matter; this is the reason that under the present system the initial selection of Battalion Scouts is so bad—Company Commanders do not send their best men to the Battalion Scout Officer. (See Chapter XXVI., "Syllabus of Training Company Scouts.")

NOTE.—Perhaps the training of Scouts at home will be simplified now owing to the double-company organization in vogue in the United Kingdom and the Colonies.

Without in any way going against the spirit of the Regulations laid down in "Infantry Training" on the subject of Scouting, my experience has taught me that it is far better for the Scout Officer to select his own men with the help of Company Commanders, and train them year in and year out. If possible, select two men from each single Company and four unpaid Lance-Corporals from the Battalion. Let these men join their Companies at Company Training and help to train the Company Scouts, returning to the Scout Officer on completion of Company Training. If the Commanding Officer insists on the very best men from each single Company being sent to the Scout Officer for training, then this officer has a simple task, but unfortunately this is not always the

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case. The Commanding Officer has naturally many other matters to worry him, the Adjutant is always a busy officer, and in consequence the matter is left in the hands of the Company Commander, who (1) dislikes to lose his best men; (2) does not care to recommend reliefs for employed men (if he did, this would probably not be sanctioned), so in the end he sends along two selections out of the handful of duty-men he happens to have at the time.

The Scout Officer's trouble at once starts, and he finds that he is continually returning men to duty and getting other men in their place, until eventually, after many long and weary delays, he gets together a more or less intelligent party of men to train. His troubles have not finished then, unless, as was said before, the Commanding Officer encourages the training of Scouts, and is willing to give all possible help to the Scout Officer, and, above all, give him a free hand.

To sum up:

1. Scout Officer selects and trains Battalion Scouts, given every help by Commanding Officer and allowed a free hand.

2. Battalion Scouts help Company Commanders to train Company Scouts while at Com-

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pany Training, and on completion of Company Training Battalion Scouts return to Scout Officer.

3. Scout Officer should help Company Commanders as much as possible in the training of Scouts at Company Training, and in this way Company Scouts are trained throughout the Battalion on the same lines.

NOTE.—The Regulations* referred to in this chapter are based on the Single-Company organization. The following are the latest Regulations on Scout training according to the Double-Company system ("Infantry Training, 1914," p. 111):

1. All soldiers should be trained in reconnoitring, observing, and reporting the result of their observations.

2. *One N.C.O. and four men* in each Company will be trained as Company Scouts.

This means that all soldiers should have a small knowledge of Scouting, and that four N.C.O.'s and sixteen men will be trained as Scouts in the Battalion.

The above will not affect the system laid down in this book for training Scouts. A selected Officer and N.C.O. could still be employed to train the above on the syllabus laid down for first-class Scouts.

Each Company supplies one group (one N.C.O. and four men). This group may return to the Company at such times as the Company Commanders may require them.

The soldier's individual training should include the work laid down for second-class Scouts (Ground Scouts).

The Commanding Officer will still have the use of four groups of well-trained Scouts if he requires them for any delicate work, and by training them under a selected Officer and N.C.O. a uniform method of training will be ensured in the Battalion.

* "Infantry Training, 1911."

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CHAPTER IV

SELECTION AND QUALIFICATIONS OF SCOUTS

THERE are several important points to be noticed in selecting a Scout. Remember that much time is wasted if you select a man, train him for a month, and then have to return him to duty for some reason which should have been noticed in the first instance. Returning a man to duty means getting another man to replace him, and extra work in getting him up to the standard of the others.

1. The first thing to do (if you carry out these suggestions) is to go personally to all Company Commanders in turn, and, together with their Co.-Sergeants-Major, go carefully through their Company rolls, and from each Company select one N.C.O. and four men whom they recommend, no matter whether these men are employed or not.

2. Collect the twenty Company Conduct Sheets and examine them carefully; see that none of these men have anything but a very good character. Of course, there *are* exceptions to this rule, but they are few and far between.

3. When you are satisfied with their sheets,

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send for the men and see them individually, and note if they look fit, clean, smart, intelligent, and are free from disease.

4. It should be explained to each man that the work he is about to carry out as a Scout is harder than the work he is at present doing, but possibly more interesting. He should be informed that he will probably remain with the Scouts for two years and will be struck off all other duties; that if he is not keen on Scouting work generally, he is of no use to you. He must be of a willing disposition. If the man hesitates, or shows he is not keen, or is not likely to last at the work long, send him back to his Company Commander, and get another good man sent in his place at once, and go on in this way until you have succeeded in getting over the above difficulties.

5. Test the men's handwriting and spelling; give the class a short message to write down. If you think any man is illiterate, send him back and get another.

6. Eyesight and hearing must be tested, and it is better, usually, not to take old soldiers.

7. If you are not satisfied with the man in accordance with above, now is your time to get rid

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of him; but if you are satisfied, you know that you have some good material to work on, and if, in addition, the men you have selected have either or all of the following educational qualifications—can swim, ride, cycle, signal, cook, shoot well, judge distance—you will have a class of Scouts in a very short time second to none in the Service. Pluck, self-reliance and nerve are necessities in a good Scout. By encouraging games and sports amongst your class, you will soon find out your best men. It is perhaps worth mentioning that British soldiers may be classified as Towns-people and Country-people.

The Townsman learns more rapidly and becomes efficient, as a rule, long before the Countryman, but when practical Scouting commences, the Countryman is to the fore. Having an eye for country, it is easy to teach him, whereas the Townsman has no instinct in this respect, and it is a very difficult business to select the right men from a Regiment consisting of Townsmen; but you can rest assured it can be done, and has been done, and if you take sufficient pains in the primary selections of your Scouts, you will be satisfied at the results. You may have a man who is accustomed

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to moving about in Forest Country (such as Canada or Burma); in a town he would be lost. These men are useful to you, and should be kept to specialize, perhaps, in one branch.

A Scout *must be* a Specialist, he *must be* carefully and specially selected; he not only requires great courage, resource, self-reliance, etc.—his work necessitates more than that. The Trained Scout must be trusted; he must be an honourable man. The officer who sends him on an important mission must have entire confidence in him, and must know that he will *always* do his duty under the most trying and adverse circumstances. In many cases the Scout must work *alone* far away from the eye of his Commanding Officer, he must be prepared to face death, and his honour must compel him to carry out at all costs the work that he was sent out to do.

This primary selection of Scouts is of such importance, that too much stress cannot be laid on the necessity of obtaining by the means already suggested the very best men to commence the class with.

These few notes show how particularly careful you must be in getting the right men to start your class with.

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Selecting these men will probably take you a few days. When you have definitely decided on the men, take the list to the Adjutant, who will relieve employed men, and have the twenty names inserted in Battalion Orders as Battalion Scouts. This, of course, will be done only given that the Commanding Officer is anxious to support the Battalion Scouts and help the Scout Officer in his duties.

CHAPTER V

SCOUTS SHOULD LIVE TOGETHER—ORGANIZATION, ETC.

HAVING selected your N.C.O. and twenty men, and arranged for their relief from employments, etc., the next thing to do is to get one or two Barrack Rooms to accommodate them—one large Barrack Room is the most suitable. If the men live together, they learn more; they talk over the day's work amongst themselves, and pick up many points which would otherwise probably be lost to them. In Camp two tents should be told off for the Scouts—Nos. 1 and 2 Groups in one tent, and Nos. 3 and 4 Groups in the other.

You will have four Groups of five men each;

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each of these Groups will be in charge of a Group Leader (No. 1). These Group Leaders are responsible to you for everything in connection with their Groups—*e.g.*, (1) If a man is found deficient of a pair of socks, the Group Leader will be dropped on for not reporting the matter to you before the inspection; (2) if a man is backward in his work, the Group Leader is responsible for bringing him up to the standard of the others.

The cots in the Barrack Rooms should be arranged so that Nos. 1, 2, 3, and 4 of each Group are together and in the order named, the Group Leader always being on the right of his Group, and the remaining four men in their respective places. Whether on parade or at a lecture, they should always fall in as above.

Although the Scouts are organized in Groups, Nos. 1 and 2 and 3 and 4 of each Group must be taught to work together.

Your N.C.O. will act as your Co.-Sergeant-Major and right-hand man. If he is a Sergeant, he should, if possible, live close to the Scouts' Room; if a Corporal, he will, of course, sleep in the Barrack Room with the men. He is really your assistant, and helps you to carry out

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your work. He is responsible for all clerical work.

Not the least important is the fact that you must have an extra man to act as permanent* Orderly; otherwise one of the Scouts will be continually off parade. This is easily arranged with the Adjutant. This extra man should attend all lectures, etc., when he is off duty, and should in the course of a month or so have picked up a considerable amount of the work. You will find this man of great use if you have to return a Scout to duty, as he can then fill the gap, and another man can be obtained to do Orderly work. This extra man should be carefully selected, and should be told that it is your intention to make him a Scout later on if opportunity occurs and his work is satisfactory.

The Battalion Scouts are absolutely under the Scout Officer for discipline, etc. The Company Conduct Sheets are kept by him, and he deals with them just as a Company Commander deals with a Company, with the exception of pay and clothing, which the man's Company Commander attends to.

* A Section Orderly is an absolute necessity in India, as rifles and ammunition have to be very carefully guarded both by day and night.

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When taking over your Barrack Room, see that all the furniture is in good condition and that there is nothing missing. Don't take over rubbish, and don't sign for anything you have not seen.

Remember that the men's Kits have to be placed, in the Battalion method, on the shelves over each cot, and that the equipment, etc., must be hung up in the correct way; untidiness in this respect is not to be tolerated. Great care at first in these matters will help you later.

Directly you have settled in your Barrack Room, you must hold a Kit inspection, take a list of all deficiencies, and note what Clothing, etc., requires renewal. The Adjutant should at once be notified, enclosing lists, and he will in the ordinary course instruct Company Commanders to make up deficiencies at once. If you wish to, you can deal direct with Company Commanders, but it usually saves time to apply direct to the Adjutant. Any defects or deficiencies of arms and equipment should be noted at the same time.

Hold two Kit inspections a week for the first month, and in that time everything should be in working order.

Bear in mind always that your Barrack Room

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and your men must be the cleanest and smartest respectively in the Regiment. The Scout Officer has specially selected men, and is entirely responsible for them, so it is to his advantage to do his utmost.

If there is no Lecture Room available, you will probably have to use the Scouts' Barrack Room for this purpose.

Scouts can either mess together or be attached to a Company for messing. The latter is suggested as the most convenient.

CHAPTER VI

EQUIPMENT

IT is now necessary for the Scout Officer to at once requisition for the following articles:

1. Blackboard and Easel; box of Chalk and Duster.
2. Twenty-one pairs of Field-Glasses.
3. One Barr and Stroud Range-Finder* (carried by Scout N.C.O.).
4. Twenty-one Prismatic Compasses.
5. One Telescope (carried by Scout N.C.O.).
6. Five Clinometers.
7. Twenty-three Maps of District (includes one for Assistant Scout Officer).

* These Range-Finders are not yet issued throughout the whole Army. In cases where unobtainable, mekometers must be used.

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8. Eight Signalling Flags.
9. Two Signalling Lamps.
10. Two Heliographs.
11. Twenty-one Message-Books and Pencils.
12. Nine Wire-Cutters (two per group).

This requisition usually creates further difficulties. Let us take the articles in order as above. There should be no difficulty in getting a Blackboard, but remember, you must have one for permanent use. Field-Glasses—most important item! They should be prism glasses, and if Scouts are to be well trained in our Army, good Field-Glasses are essential. The usual glasses as issued are not of much use; insist on getting the best. Prism glasses are issued to the Artillery; these same glasses should be issued to all Scouts. Each man should be instructed in the use of the Barr and Stroud Range-Finder. Whether the Authorities will issue it to Scouts, remains to be seen, but it appears to be a very necessary article of their equipment. Scouts must have good Compasses, for night work especially. A Prismatic Compass is very necessary, and can be obtained if the matter is pressed. Clinometers are to be obtained; if you cannot get five, at any rate get one, and instruct your class in its use. There is usually

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no difficulty in obtaining Ordnance Maps of the District. Signalling must be taught, so Flags, Lamps, and Helios are requisite, and should always be issued to Scouts. These articles should not be borrowed from the Regimental Signallers, but be issued for permanent use with the Scouts' class. Message-Books and Pencils are an important item, and must be obtained. There will be a difficulty in getting Wire-Cutters. If you cannot get nine, at any rate get one or two pairs, as a certain amount of practice with them is necessary. Men should get used to carrying them.

A Book will be kept by the Scout Officer, in which will be recorded lists of all articles of equipment received and how disposed of. Each man will sign in this Book for articles received. It should be explained to the men that they will be held responsible for the safety and care of all articles signed for. The N.C.O. will sign for all articles not on charge to anyone else—viz., Barr and Stroud Range-Finder, Helios, etc., and will keep them under lock and key when not in use.

Notepaper, Memo. Forms, etc., will also be requisitioned for, and a Diary will be kept, both by the Scout Officer and the N.C.O., of work

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carried out daily. This book will be produced at Commanding Officer's Inspections and be examined and initialled by him.

A Scout should be equipped as lightly as possible. He may have long distances to travel, but there are certain articles that he must always have in his possession—

1. Ordnance Map of District.
2. Field-Glasses.
3. Message-Book (two Pencils).
4. Protractor.
5. Knife (large and strong, worn on belt in sheath).
6. Prismatic Compass, Magnesium Wire, and Box of Matches.
7. Wrist Watch.
8. Large Haversack ; small quantity Permanganate of Potash.
9. Wire-Cutters (two per group on Service).
10. Water-Bottle.
11. Emergency Rations (on Service).
12. Rifle (on Bicycle).
13. Ammunition (on Service).
14. First Field Dressing and Identity Disc (on Service).
15. Automatic Revolver (on Service).
16. Bicycle (in suitable country).

Carried on Bicycle (on Manœuvres and on Service)—

(*a*) Mess-Tin on front carrier.

(*b*) Waterproof Sheet
(*c*) Blanket
} Rolled neatly, sheet outside, and carried on back carrier of machine.

(*d*) Waterproof Bag containing spare kit—viz., shirt, sweater, socks, etc.—on front carrier.

(*e*) Mackintosh Cape, fastened to handle-bars by clip.

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(*f*) Bicycle Accessories
(*g*) Repair Outfit, oil and tools } In back pouch.

NOTE.—All bright parts, such as buttons, etc., should be browned. Mackintosh cape and waterproof bags can, if necessary, be made up from mackintosh sheets.

Helios, Lamps, and Signalling Flags are carried on the transport when not required (in a pannier on a G.S. limbered waggon with first line transport). The Scout N.C.O. carries the Range-Finder and Telescope, and should be armed with an Automatic Revolver in lieu of rifle.

A Wrist Watch must be purchased by the man himself or issued by Government. It is a necessity.

As little Ammunition as possible should be carried on Service. A Scout must always remember that he fights only for self-preservation.

An Automatic Revolver on Service is a useful weapon for a Scout, and should be carried on the person (see p. 196).

The Scout's Overcoat on Service or on Manœuvres must be carried on the transport.

For training purposes a Bicycle is very necessary; it allows the Scout to cover fresh ground daily. Where there are no suitable roads, the Bicycle must, of course, be dispensed with (see Note 4, p. 26). There are several

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patterns of Government Bicycle. They are strongly made, rather heavy, and excellent machines for hard wear, and if these machines were handed over to the Scouts permanently, they could not be mounted better. But the Government machine is continually changing hands, and is consequently not looked after as well as if it belonged to one man. Apart from this, you will find great difficulty in obtaining Government Bicycles for all your Scouts; you might perhaps obtain four, but very seldom more. If you are able to obtain seventeen, the problem is solved. When training the Scouts of my Regiment this difficulty cropped up, and the men were then asked to buy their own machines on the hire-purchase system, which they did to a man.

This turned out to be an excellent plan, and the men looked after and took more interest in their own machines than possibly they would have done with a Government Bicycle.

NOTE.—1. When not on Service or Manœuvres it is a good plan to carry a sweater or overcoat on Bicycle. Men are liable to catch chills when halted after long rides.

2. The Bicycle, accessories, repair outfit and tools must be inspected daily by Group Commanders, and at least once a week by the Scout Officer.

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3. On Manœuvres a spare tent, if possible, or some covering, should be found for the Bicycles.

4. On Service or on Manœuvres, when the Bicycle cannot be used, the Scout should wear a Pack and carry the following articles, in addition to the list enumerated on p. 23, paras. 1-15 :

(1) Mess Tin with rations.
(2) Blanket and Waterproof Sheet.
(3) Spare Kit.
(4) Rifle or Automatic Revolver.

The question of carrying a Pack Blanket, Mackintosh Sheet, and Spare Kit must be decided by the circumstances of the case. If the Scout is only likely to be away a short time, it is better to let him go as light as possible. During peace training in countries where Bicycles cannot be used, the Scout must do all his work on foot, the drawback to this being the difficulty of training him on new ground daily.

In some stations abroad it is sometimes possible to obtain horses or mules, and in this manner get out to fresh ground.

5. A Scout should be very careful about his clothing. His coat should be of a different shade to his trousers. Place a man dressed in khaki trousers and a greyback in the shade, and at the same distance place a man dressed entirely in khaki, and note the difference. White shows up tremendously. Note the difference between a piebald horse and a uniform coloured horse seen in dark shadow. If different colours are worn, it is difficult to make out an outline when object is still. Four large strong pockets in coat are very necessary.

CHAPTER VII

SCOUTS' BADGES, PAY, AND PROMOTION

IT is a great mistake to distribute Scouts' Badges broadcast. Don't on any account grant

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a Scout's Badge until you are absolutely satisfied that the recipient is an expert at his work.

Scouts' Badges must be sparingly distributed; the men think a great deal of them, and only the very best men should wear them.

It does not signify, if you have sixteen Scouts, that they will all be worthy of the distinction of wearing a Scout's Badge. One comes across men wearing these Badges who do not know the ABC of Scouts' work. Possibly they may have forgotten all they had been taught, or more likely their education was only half completed.

Make a rule of not giving anyone a Scout's Badge until he has completed at least one year's training. In that period you will probably find a few of them fitted to wear the Badge.

If the Scout Officer permits men to wear Scouts' Badges when they are only partially trained, it leaves him open to the responsibility of the following possibilities:

1. Causing a disaster on Service.
2. Giving his Regiment away on Manœuvres.

Your Regiment, however good it may be, however well-officered and well-trained, will suffer disaster sooner or later if it has not the help of a highly trained body of Scouts. Re-

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member that a report from one Scout *may* alter the dispositions of an army.

If a General or other officer sees a man wearing a Scout's Badge, he should without any questioning know that he had got an expert at hand and could send him on perhaps a difficult and dangerous enterprise with the greatest confidence. But is this so to-day? Is the average man you meet decorated with a Scout's Badge able to take on the delicate work which a Scout is trained to carry out with that confidence which he should do? There is only one answer to the question.

In my Regiment, taking two years' continuous training of Scouts, only eight men were granted Scouts' Badges.

In the Royal Canadian Regiment during two years' continuous training only six men reached the required standard and obtained Scouts' Badges.

The Badge itself is made of bright metal, and consequently is too conspicuous to wear on Manœuvres or on Service. It is a distinction that should always be worn, and some change should be made in the material of the Badge (see p. 194).

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It is the opinion of many that the Scouts in our Service are not trained all on the same lines, and that the standard varies a great deal in different Regiments. This was most noticeable to me when training Scouts at Longmoor M. I. School, four Scouts of the Rifle Brigade being worth all the rest of the men put together.

These few words on Scouts' Badges have been written with the hope that all Regiments in our Service will acquire a high standard in Scout work, and will sparingly issue Scouts' Badges. The great importance attached to the receipt of a Scout's Badge should be brought home to the recruit, and the very fact that these Badges are difficult to obtain will make your men work all the harder in the hope of eventually procuring one.

Pay, Promotion, etc.—Here is another difficulty that the Scout Officer has to face. Your Scouts go through a grand training, and after obtaining their Badges, or perhaps before doing so, they wish to go in for promotion, which usually they are qualified to do. They make excellent N.C.O.'s. To give an instance: Upon returning to my Regiment after two years' absence, all the men that were acting as Scouts on my

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leaving had been, with one exception, promoted to non-commissioned rank, several of them being full Corporals, and two Lance-Sergeants.

One way to attract and keep good men is by giving them extra pay. This matter has been suggested for consideration by the Permanent Forces in Canada; perhaps something will be done in other parts of the Empire to keep these men together, as it is essential that their training be continuous (see p. 193).

When you are satisfied that you have selected the right men as Group Leaders, the four Lance-Corporals can be placed on pay at once, and perhaps if they continue to improve in their work, these Group Leaders may look forward to promotion to Corporal. The difficulty with regard to promotion is with the remaining men, who may all be well qualified for advancement. It seems to me extra pay is the only way to keep them, with promise of promotion later. If absolutely necessary, at the end of the first year's training, you can let a small number leave—say three men—and get new blood in their places.

Whatever happens, you must always have reliable men in training ready for any emergency.

In addition to giving extra pay, it is a good

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thing to allow these men certain privileges—that is, after they have obtained their Badges. In this manner the popularity of Scouting would advance by leaps and bounds.

With extra pay, certain privileges, and the Scout's Badge made more of, there would be numbers of men volunteering for the work, and those that have been selected be anxious to stay on.

NOTE.—If Commanding Officers are unable to obtain all that is mentioned in the shape of equipment, etc., for their Scout Officers, and do not see their way to relieve the Scout Officer from other duties, they can at any rate continue a modified form of training on the lines suggested in this book. This method of training Scouts can be carried out, and has been carried out, in a successful manner, both at home and abroad in hill stations and on the plains.

CHAPTER VIII

A WORD TO THE MILITIA OF CANADA, AUSTRALIA, NEW ZEALAND, TERRITORIALS, AND INDIAN VOLUNTEERS

ALTHOUGH it is impossible for the Militia of Canada, Australia, and New Zealand, and the Territorials at home to carry out everything suggested in this book, they can, at any rate, select their Scout Officer and send him to a Central School of Scouting for a period of training (see

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p. 191), and, if possible, at the same time send up a Scout N.C.O. for training.

If the Central School of Scouting does not come into being, they must rely on Regular units close at hand for assistance. The Scout Officer and N.C.O. of a Regular unit would doubtless help for, say, two evenings a week during the winter months. If there is no Regular unit handy, you must work out your own salvation on the lines laid down in this book. Select the right men, work away with them, and you will be pleased with the result. There are many excellent books on Scouting pure and simple, which you can always refer to, the best, to my mind, being General Baden-Powell's "Aids to Scouting."

My experience with the Territorials of the East Lancashire Division on Salisbury Plain in 1909 was surprising to me. While attached to the 9th Battalion Manchester Regiment (a more cheery and keener lot of officers I have never met), ninety-two N.C.O.'s and men were sent to me to choose from: twenty-two were selected and trained, and several officers. They were all as keen as mustard, and worked hard. The training lasted a fortnight, and the result was everything to be desired. These officers and

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men learnt the outline of the work to be carried out, and were able to return to their various Regiments, not only with the idea of carrying on the study of the subject, but in time they were able to instruct others. One was much struck with the keenness these men showed, and the quick, intelligent way in which they handled the subject. It was a pleasure to instruct them.

The system of sending Scout Officers and N.C.O.'s from Regular units to instruct Territorials in Scouting during their Camp is an excellent one, and if this could be extended so that the Militia, Special Reserve, and Territorials had the assistance of these officers and N.C.O.'s at certain times during the winter months, Scouting would advance by leaps and bounds.

This system of night instruction has been carried out by at least one Militia Regiment in Canada, assisted by a N.C.O. from the Permanent Force.

When at Camp, there should be no difficulty in obtaining Bicycles and keeping your class together, as already suggested, and working on the same lines identically as other units. It is just as important for the Militia and Territorial units to have highly trained Scouts as it is for

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the Regulars. The difficulties are somewhat greater, but can be overcome with an energetic and keen officer as instructor. The training should be continuous, and kept up somehow or other all the year round. The following chapter on the syllabus, etc., refers to the Militia and Territorials just as much as it does to the Regulars, as the Regulations require that Scouts should be trained on similar lines throughout our Army at home and abroad.

In many cases the training of Scouts has been neglected altogether, especially during the winter months, and so perhaps these few lines will impress on Commanding Officers the importance of at once starting some form of class.

With regard to training Indian Volunteers in Scouting, there are, of course, many difficulties to be contended with, but they can all be easily overcome by a keen Adjutant. The men can be trained, and *must* be trained, but it entails a certain amount of extra work for the officials and men concerned.

A great number of the Volunteer Corps in India are Railway Corps, composed chiefly of Eurasians, stationed at various places along Railway lines, a Battalion in some cases covering many miles of country. The men are

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scattered a few here and a few there, the numbers on parade at Annual Camps being usually small. At Dacca, Eastern Bengal, last year the Volunteers only numbered about 150 at their Annual Camp, but the keenness shown by all ranks was very noticeable.

Volunteers are training for war, and it is just as necessary for them to have trained Scouts as it is for Regulars to have them; consequently these Scouts *must* be trained somehow or other. If it is impossible to get the full complement trained—viz., one N.C.O. and sixteen men—it is surely possible to get eight men trained. Train them as Ground Scouts first, and later as First-Class Scouts. Use this book, and follow the syllabus. Even if the man is by himself at a lonely station on the Railway line, he can, if keen, be of great assistance to his Corps and country by studying the work a Scout has to master. He can learn to signal, report, observe, track, read a map, make a map, use a prismatic compass, etc., and at the Annual Camp he can carry out some practical work, and show his Commanding Officer what a great assistance a well-trained Scout can be. Commanding Officers of Indian Volunteers would do well if they insisted on the Regulations

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being carried out with regard to Scouting, and after selecting suitable men for the work, their Adjutants could cross-examine these men on the work carried out by them at each of their numerous inspections. A Volunteer Adjutant in India or Burma spends most of his time inspecting, and in this manner this particular branch of work, which to my mind is the most important, would be kept up to date; and if the Corps was called up for Active Service, they would have trained men ready, and would be on the same footing as Regulars in this respect. A man wearing a Scout's badge in the Volunteers must be an expert. Indian Volunteers may be employed to quell local risings, to resist attacks, and protect women and children until Regular troops arrive; or they may join with Regular and other troops in a campaign. In either case, trained Scouts are an absolute necessity, and the Volunteer Corps in India who realize this, and commence training their Scouts, will never regret having done so.

A Volunteer Corps without trained Scouts is courting disaster.

NOTE.—All Special Reserve, Territorial, and Indian Volunteer officers should obtain all the books mentioned in Chapter IX. Regular officers are in possession of them.

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PART II

CHAPTER IX

SYLLABUS OF SCOUT TRAINING

Remarks.—It will take the Scout Officer some days, perhaps weeks, before he has got his class together, collected the necessary equipment, etc., and has carried out the few suggestions contained in Part I. A six months' course* is recommended for the first year, as Company Training, Manœuvres, Musketry, and Furlough take up a considerable time. If the Scout Officer is able to have his class of instruction for a period of six months, he is doing well; if he can get in a couple of months more, so much the better. With the exception of Physical Training and Running, the first two months' work should be carried out indoors, with the help of a blackboard and chalk. Six hours' work a day should be carried out when possible.

The latest editions of the following books

* If, in consequence of the present war or for any other special reason, time is limited for training, a course of six weeks should be carried out on the lines laid down in this syllabus.

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should always be kept by the Scout Officer for reference if necessary, or to go more fully into any particular subject: (1) "Infantry Training," (2) "Manual of Map Reading and Field Sketching," (3) "Manual of Field Engineering," (4) "Field Service Regulations," (5) "Musketry Regulations," (6) "Field Service Pocket-Book," (7) "Training and Manœuvre Regulations," (8) "Training Manual Signalling," (9) "Manual of Physical Training," (10) "Handbook of the Barr and Stroud Range-Finder."

The above are official books, and can be obtained from Messrs. Hugh Rees, Ltd., 5, Regent Street, London.

SYLLABUS.

FIRST MONTH. (*In the Barrack Room.*)

SUBJECT.	WHERE REFERRED TO.
Physical Training, Drill, Running, Inspections	Pages 132 *et seq.*
Power of Observation, Tracking, etc. ...	,, 41, 102
Map Reading, Scales, etc.	,, 45 *et seq.*
Reports	,, 60 ,,
Signalling	,, 70 ,,
First Aid	,, 136 ,,
Protection	,, 130

SECOND MONTH. (*In the Barrack Room.*)

Physical Training, Drill, Running, Inspections	Pages 132 *et seq*
Power of Observation, Tracking, etc. ...	,, 41, 102
Map Reading, Scales, etc.	,, 45 *et seq.*

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Subject.	Where referred to
Reports	Pages 60 *et seq.*
Signalling	,, 70 ,,
First Aid	,, 136 ,,
Protection	,, 130
Prismatic Compass, Clinometer and Protractor	,, 76 *et seq.*
Cipher	,, 146
Demolitions	,, 149 *et seq.*

THIRD MONTH. (*Outdoors.*)

Running, Inspections, etc.	Pages 132 *et seq.*
Demolitions	,, 149 ,,
Map Reading	,, 45 ,,
Visual Training, Concealment, etc. ...	,, 90, 99
Study of Moon and Stars	,, 122
Reconnaissance of Roads and Rivers, etc.	,, 106 *et seq.*
Power of Observation, etc.	,, 41, 102
Reports	,, 60 *et seq.*
Signalling	,, 70 ,,
Elementary Field Sketching	,, 59
Prismatic Compass, Clinometer, and Protractor	,, 76 *et seq.*
Night Work (once a week)	,, 117 ,,
First Examination Paper	,, 159

FOURTH MONTH. (*Outdoors.*)

Running, Inspections, Drill	Pages 132 *et seq.*
Power of Observation, Tracking, etc. ...	,, 41, 102
Map Reading	,, 45 *et seq.*
Night Work (twice a week)	,, 117 ,,
Range-Finder	,, 156
Visual Training, Concealment, Use of Cover	,, 90, 99
Study of Moon and Stars	,, 122
Reconnaissance of Roads, Rivers, etc. ...	,, 106 *et seq.*

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Subject.	Where referred to.
Report, etc.	Pages 60 *et seq.*
Signalling	,, 70 ,,
Elementary Field Sketching	,, 59
Demolitions	,, 149 *et seq.*
Scout Aeroplane Work	,, 171 ,,

FIFTH MONTH. (*Outdoors.*)

Inspections, Running, Physical Training, Drill	Pages 132 *et seq.*
Night Work (three nights a week) ...	,, 117 ,,
Map Reading	,, 48 ,,
Signalling	,, 70 ,,
Study of Moon and Stars	,, 122
Reports	,, 60 *et seq.*
Protection	,, 130
Second Examination Paper	,, 160
Scout Aeroplane Work	,, 171 *et seq.*

SIXTH MONTH. (*Outdoors.*)

Go over all the various headings. Men who are backward must have extra work to reach the standard of the others.

Probably more night work will be required. Keep your men fit; they should be as hard as nails by now.

NOTES ON SYLLABUS.

1. Don't lecture your Scouts for more than half an hour at a time on any one subject.
2. Make your lessons as interesting as possible.
3. Encourage groups and individuals to compete against other Groups, etc.
4. Insist on your men playing games, and join in yourself. In this way you will be able to find out the temperament of each Scout.

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5. A good shot has usually plenty of nerve, and this is required in a Scout, so your Scouts should all be expert shots. You must give up some of your spare time to take them to the range and encourage good shooting, both with rifle and revolver.
6. If possible, teach your class to ride. This should be done after six months' training in the first year.
7. When your men go on Furlough, ask them to keep in touch with what they have learnt, and continually think of improving their powers of observation, which they can very easily do on Furlough.
8. Don't tell them they are perfect. Let them know when work has been carried out well, or the reverse, but always look for further improvement.
9. Don't let them get "swollen heads."
10. The Scouts should be looked up to by every man in the Regiment, and should always be ready to assist others and give advice.
11. Last, but not least, encourage the study of languages, especially German. Arrange, if possible, for them to go to a night class. If you have got the right stamp of man he will be delighted at the idea. It means hard work, but he will be repaid by the result.

CHAPTER X

POWER OF OBSERVATION, ETC.

FROM the very first moment you get your class together you should commence to impress on the men the importance of observance of detail, and not a day should pass without some question being asked them which will help to train them materially in noticing objects quickly, and

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never missing seeing anything that passes close to them. It is an extraordinary fact that some men, who have perhaps inhabited the same room for years, could not tell you what furniture there was in the room, the colour of the paper on the walls, and the colour and pattern of the carpet. A few examples are given below as to what questions can be asked when in barracks:

1. How many beds are there in your Barrack Room?
2. Describe the man sleeping in the bed next to you.
3. How many windows are there in your Barrack Room?
4. Looking out of the window facing East, describe what you can see.
5. Describe your Company Officer.
6. Did you see Captain —— yesterday afternoon?
7. What clothes was he wearing?
8. Have you seen any officers going in or coming out of the Officers' Mess?
9. When you passed the Orderly Room this morning, was anybody outside; if so, describe anyone you saw.
10. Describe exactly the way your kit has been placed on your shelf in the Barrack Room?
11. Tell me all you can remember about your Rifle.
12. If the number was deleted from your Rifle, is there any other way you could recognize it?
13. Did you notice any man with long hair in your room?
14. What is the colour of Pte. ——'s hair?

and thousands of other simple questions.

When you get out of barracks, whether on the march, in Camp, or wherever the Scout may be, he must be continually observing

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things. On Service he must keep his eyes moving all the time, watching the skyline in the distance, looking out for tracks, ambushes, etc., and now he must have a care for aeroplanes (see Chapter XXVII.). If the Scout is reconnoitring, nothing must miss his eye during the time he is out. He must constantly look back and examine the country, so that if he returns the same way he can recognize all landmarks. By constant training and practice he will be able to tell you on his return from a patrol what sort of country he has passed through, the people he has seen, the tracks he has passed, and all noticeable landmarks on his journey backwards and forwards. The sudden flight of birds or nervousness of cattle and horses denotes usually the presence of an unknown person. In South Africa, with constant practice, one's eyesight improved tenfold, and after a year's training objects were picked up immediately long distances off. Train your men to at once halt and listen attentively if they hear anything unusual. Teach them to locate the sound and explain what caused it. A few examples in the way of questions are given below to show the manner in which your Scouts can be trained to be expert and quick

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as lightning at noticing things, whether far away or close at hand:

1. What direction are you going in?
2. The man that just passed: What was the colour of the clothes and hat he was wearing? Describe him.
3. Did you notice a smithy in the last village we passed through?
4. How large was it? Were there any men at work there?
5. Did you notice a Post-Office? If so, was there a letter-box near at hand?
6. When you passed through the last village did you notice its name written anywhere?
7. Can you see any living object on that ridge over there?
8. Which way is the wind blowing?
9. Which side of your face was the wind blowing when you left barracks this morning?
10. How far have you walked this morning?
11. Have you noticed any milestones along this road?
12. Did you notice what was written on the last signpost that we passed?
13. Did you look in at any shop windows last night when you were in town? If so, tell me what you saw.
14. Have you noticed any place along this road that would make a good camping-ground for a Battalion of Infantry?
15. Have you passed a railway-bridge? What was it made of?
16. How many telegraph-wires are there running along this road?
17. How far are the telegraph-poles apart?

There are many other questions that can be asked. On returning from a walk, train your Scouts to be able to remember everything they have seen. This important branch of the Scout's

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education must be kept up daily, and at the end of the year, perhaps sooner, you will find your men adepts at the art of observing and taking in not only everything that passes close to them, but also in the far distance. Constant training will make your men *almost* perfect.

NOTE.—(1) Akin to this subject comes a very important heading—that of training your men in "asking questions" for the purpose of gaining information from friendly inhabitants and others. They should be trained to ask questions in a correct way without hesitation, and obtain the information required without delay. They should be able to discriminate between reliable and false information.

(2) In India, if he wishes to obtain information from a Sepoy, and does not know his language, the Scout should remember that all military terms are understood by Sepoys—viz., Battalion, Regiment, position, attack, defence, all parts of rifles, advance, retire, right wheel, etc. By this means Scouts are able to direct and to obtain information.

CHAPTER XI

MAP READING*

IT is essential that all Scouts should be able to read a map with ease. It is imperative that they should be able to find their way by day or night. This part of their training is most

* Reference, "Manual of Map Reading and Field Sketching."

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important and cannot be learnt at once. It is difficult to teach some men Map Reading, but with selected men it should be comparatively easy to attain the required standard within a year. Commence work in the following order :

1. Open Map and find North line.
2. Set Map.
3. Find out Scale.
4. Study Map.
5. Work out problem.

1. *North Line.*—The sides of Ordnance Maps point true North and South. The True and Magnetic North should always be shown on a map or sketch.

2. *Setting a Map.*—(*a*) A map is usually set by a compass, lid turned down, hair-line on glazen window directly over the Magnetic North line on map. Move the map (holding the compass steady) until the Magnetic needle is pointing exactly in direction of the Magnetic line on map.

(*b*) Two known Points : X and Y. Standing at X you must be able to see Y. Join X and Y up on the map with a fine pencil line, then point the line XY directly at object Y, and the map is set.

(*c*) By a Watch and the Sun. Hold the watch horizontally, with the face upward, the hour hand

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pointing towards the sun; then an imaginary line drawn from the centre of the dial bisecting the lesser of the two angles between the hour hand and the figure XII will, in the Northern Hemisphere, give you the direction of South within 15 or 20 degrees. In the Southern Hemisphere, hold the watch as before, but in this case point the line from the centre of the dial to figure XII at the sun; then the line found as above is in this case approximately a North line.

NOTE.—This method is a very rough one; it should never be used in the tropics.

(*d*) By a straight road, railway line, sometimes roughly by wood or river.

(*e*) By the Pole Star in the Northern Hemisphere (see Chapter XVIII.).

3. *Find out Scale.*—Having set the map, look for the scale. Without some means of finding out the scale a map would be useless. On finding the scale, note the number of miles or parts of a mile that go to one inch, or *vice versa.*

4. *Study the Map.*—Thoroughly grasp the lie of the ground and note generally whether the country is close or open, hilly or flat, also what towns, villages, rivers, and positions there are.

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5. *Work out Problem.*—After spending a few minutes at above, you are able to grasp a situation more easily, and will then be able to appreciate the situation at once, whatever it may be.

NOTE.—Various work may have to be done before the above five paragraphs can be carried out properly.

If there is no North Point shown on the map, and it is not an Ordnance Map, how are you going to find the North Point?—Approximately by the "Watch and Sun" method already referred to, or by setting the map on level ground by means of stick and plumb-line referred to in Chapter XIV.

Having set the map, there may be no scale on it: What are you going to do? If possible, find the distance between two objects, A and B, on the map, and find out the distance they are apart on the ground—*e.g.*, A and B are 4 inches apart on the map, and 4 miles apart on the ground, therefore the scale of the map must be 1 inch to 1 mile.

$$\text{R.F.} = \frac{1}{63360}.$$

To study the map properly a Scout must know thoroughly all the Conventional Signs; otherwise he cannot recognize things on the map. He must also be conversant with contour lines; otherwise he will not know whether the ground is hilly or flat, or whether to report that the enemy hold a good position or otherwise. To sum up, the Scout must be instructed under all the following headings:

1. Conventional Signs.
2. Contour Lines, V.I. and H.E.

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3. Visibility.
4. Scales.
5. Setting a Map.
6. Enlarging or Reducing a Map.
7. Studying a Map.
8. Schemes on a Map.
9. Points of the Compass.
10. Elementary Field Sketching.
11. Definitions and Technical Terms.

1. *Conventional Signs* for a road, river, railway, trees, marshes, troops, etc., must be at the finger-ends of Scouts. Your Manual will give all these.

2. *Contour Lines.*—(*a*) With the use of contours one can quickly tell the general lie of the ground. The best way of instructing a class is to get some clay and place it on a board in the Lecture Room, and with it make different shaped miniature hills. Every man in turn should outline the hill on the blackboard by means of contour lines. Mistakes should be at once pointed out to the class and the correct lines drawn for them. After the class has had this instruction indoors, let the men take an Ordnance Map into the country (6 inches to 1 mile if possible), and study the map and ground, and after a certain amount of practice let them use smaller scale maps until they

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eventually have no difficulty in reading contour lines on an inch map (see also Paragraph 11).

NOTE.—When ground is steep, contours are close together, and on a gradual slope contours are wider apart.

(*b*) *The Vertical Interval* (*V.I.*), always given in feet, is the difference of level between two contours.

(*c*) *The Horizontal Equivalent* (*H.E.*) is the distance in plans between two adjacent contours.

(i.) Given the H.E. and V.I., the degree of slope of a hill can be found.

(ii.) Given the degree of slope and the V.I., the H.E. can be found.

(iii.) Given the H.E. and the degree of slope, the V.I. can be found.

Following is the formula:

$$\text{(i.) D.} = \frac{20 \times \text{V.I.}}{\text{H.E.}}.$$

$$\text{(ii.) H.E.} = \frac{20 \times \text{V.I.}}{\text{D.}}.$$

$$\text{(iii.) V.I.} = \frac{\text{H.E.} \times \text{D.}}{20}.$$

NOTE.—Slopes are usually expressed in degrees. To express degrees of slope as a gradient:—

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Hill, 5 degrees—

$60 \div 5 = 12$. Gradient, 1 in 12.

Gradient, $\frac{1}{4} = 60 \div 4 = 15$. Degree of slope, 15.

Inform the class the degree of slope which will stop transport, guns, Cavalry and Infantry, etc.

3. *Visibility.*—This is an important branch of Map Reading and must be studied carefully.

Scouts should be instructed as follows:

Take them into the country with their maps, and practically explain:

(*a*) On open ground, with no obstruction in view, one point is visible from another when ground is dead level or has a uniform slope throughout.

(*b*) If country between two points is lower than both of them, they must be visible to one another.

(*c*) Invisibility of one point from another results from the presence of some obstructing feature between two points.

Give an example of this on the ground.

Instruction must be given to your class in drawing a section of a piece of country, but for an ordinary question on visibility the men should be able to give an accurate answer with-

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out drawing a section, or, at any rate, only making a very rough one.

4. *Scales.*—Representative Fraction, or R.F., means that one unit on the map (numerator) represents a certain number of the same units on the ground (denominator).

For the actual construction of a scale, it will almost always be the best plan to work from the R.F. If this is not given, it must be ascertained. The numerator and denominator of a fraction must always be expressed in the same units of measurement.

With regard to English scales, they are sometimes described in inches to a mile, and sometimes in the opposite way, in miles to an inch—*e.g.* :

$$1 \text{ inch to a mile R.F.} = \frac{1}{63360}.$$

$$5 \text{ inches to a mile R.F.} = \frac{1}{12672}.$$

$$10 \text{ miles to 1 inch R.F.} = \frac{1}{633600}.$$

$$5 \text{ furlongs to 1 inch R.F.} = \frac{1}{220 \times 5 \times 36} = \frac{1}{39600}.$$

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To construct a Plain Scale.—Example: Construct a scale of 4 inches to the mile.

$$\text{R.F.} = \frac{4}{63360} = \frac{1}{15840};$$

1 inch on the ground represented by $\frac{1}{15840}$ inches on map;

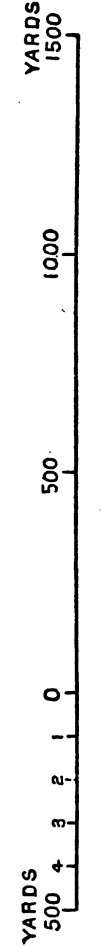
36 inches, or 1 yard, on the ground represented by $\frac{36}{15840}$ inches on the map;

1,000 yards on the ground represented by $\frac{36000}{15840}$ inches on map = 2·27 inches;

∴ 2,000 yards on ground are represented by 4·54 inches.

Scale $\frac{1}{15840}$ or 4 inches to 1 mile.

Or, draw a line 4 inches long; divide it into four parts, each part equal to 440 yards. Divide the first



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part into four parts, each representing 110 yards. This is perhaps a more simple method.

Scales should usually be from 4 inches to 6 inches in length. It is useful to remember that the lines on a sheet of ruled foolscap are as nearly as possible $\frac{1}{3}$ inch apart. So a strip of such paper, cut lengthways, makes a handy scale, the intervals between the lines being approximately equal to 100 yards on the 6-inch scale, 150 yards on the 4-inch, 200 yards on the 3-inch, 300 yards on the 2-inch, and 600 yards on the 1-inch. Another useful measurement to know is that the diameter of a halfpenny equals 1 inch.

NOTE.—Maps without scales have already been referred to. (See Note, par. 5, p. 48.)

5. *Setting a map.* See p. 46.

6. *Copying, Enlarging, and Reducing Maps.*—Methods of copying maps:

(*a*) Trace it.

(*b*) Prick pin-holes through the original and through your paper, which has been placed under original, at important points, such as at the intersection of roads, houses, edges of woods etc,, and fill in the detail by eye.

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(*c*) Place a piece of carbon paper between the original and the paper. Run a pencil with a sharp point over the details in the original, which will be thus transferred on to the clean paper by means of the carbon.

(*d*) Rule squares on the original and on your paper, and fill in the detail which occurs in the corresponding square.

Method of enlarging or reducing the map:

For a sketch of longitudinal shape, such as that made by a river or road, a sketch may be copied by means of "Proportional Triangle," and the same method should be adopted if the sketch has to be reduced to such a small size that it would be impracticable to rule squares sufficiently small.

If a map is to be reduced or enlarged, and the method of squares is adopted, the same number of squares must be ruled on the original and the copy, those on the latter being proportionally larger or smaller, as required. It is a good plan, when making a necessary calculation, to ascertain the R.F. both of the original and the copy, and note which of the two will be larger. This will be a check on your calculations.

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7. *Studying a Map.*—Varied practice on different maps must be given.

The class should be given at least ten minutes to study a fresh map. Maps should then be folded up, and questions asked as to what the ground appears like generally; whether the class can remember names of rivers, railways, villages, distances, etc. Then, again, questions should be asked as to what road should be taken when travelling from A to B; distances from X to Y; the time it would take to walk from A to Z, or to cycle from B to S; to show a good position on the map, and give reasons for choosing it. Then rough sketches of small pieces of country taken from the map (with the map open), and after that from memory. The men should also be able to follow a road across the map and describe it accurately. Thus: "I left HELSTON, travelling S.E. for about two miles; leaving HELSTON DOWNS on the N., and, passing Point 269, I came to DODSONSTOWN, and from there, travelling S., passing POLWIN and BUZCOOSE, arrived at Point 69, my destination."

It is well, perhaps, to mention here that Map Reading is best learnt by constant change of ground. When the Scout Officer considers he

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has instructed his men long enough indoors, let them get out on their bicycles in different directions daily, and on their way out questions can be asked as to what direction they are travelling in. Halt, and get them to show you where they are by pointing out the actual spot on the map. A hill is shown on the map a mile away: Where is it on the ground? A railway bridge is seen in the distance: Where is it on map? Maps should always be carried exposed when riding bicycles, carefully folded so that a square about four miles is seen, and can be studied if necessary whilst riding along. Much work can be carried out in this way by the Scout Officer. When the class are fairly proficient map readers, they can be sent out to wait at different places on their bicycles, such as cross-roads 200 yards N. of "n" in "Coniton."

The Scout Officer should then visit all his men, and he can then find out if any of them are weak at map reading. The Scout Officer will find a motor-bicycle very useful on these occasions; it saves a lot of time. When the men are sent out to these points, they should be asked to make a rough sketch of the surrounding country; or, if the points are near at hand, and perhaps visible

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from high points of the vicinity, they can practise Semaphore, and send through short messages which the Scout Officer can check on his rounds. From these various points the Scout Officer can give his men instructions to concentrate by different roads on another point within a certain time. This will give another good test of Map Reading on the same day. Another good system is to send your Groups long distances on bicycles, each Group having instructions to call at a named telegraph office within a certain time. On arrival at the post-office, a telegram will be awaiting them from the Scout Officer. Example of telegram: "Corporal Evans, P.O., Petersfield. Concentrate at 3rd class cross-roads 600 yards E. of Colemore Church. Commanding Scouts."

8. *Schemes on the Map.*—Set schemes on map and let the Scouts work them out (see p. 67).

9. *Points of the Compass.* (See p. 81.)

NOTE.—(1) Span of hand is, roughly, 9 inches. First joint of the little finger is, roughly, 1 inch. (2) A Scout should know the length of his foot, the length of his pace and his rifle, the breadth of his hand, and all other measurements that would be a help to him in his work. (3) In map reading, especially in working out a problem, if you wish to quickly grasp the lie of the ground, carry out the following:

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Mark rivers with blue pencil, woods green, roads brown, and use small red and blue flags to represent the troops.

10. *Elementary Field Sketching* must be carried out in conjunction with Map Reading. It is useless to try and teach men to sketch who have no aptitude for it. All Scouts should be able to make rough sketches, but only a few will really shine at sketching. (See note, pp. 67 and 114.)

11. *Definitions and Technical Terms.*—The following should be explained to the Scouts:

(*a*) A Col or Saddle—depression between two ad acent hills.
(*b*) Crest—edge of top of hill.
(*c*) Knoll—low detached hill.
(*d*) Plateau—an elevated plain.
(*e*) Spur—projection from side of hill running out from the main feature.
(*f*) Watercourse—line defining lowest part of a valley, whether occupied by stream or not.
(*g*) Watershed—summit of land from which water divides or flows in two directions.
(*h*) Bearing—true bearing is the angle a line makes with the true North line.
(*i*) Magnetic Bearing—is the angle a line makes with the Magnetic North line.
(*j*) Form line—an approximate contour.
(*k*) Gradient—a slope expressed by a fraction.
(*l*) Contour—the representation of an imaginary line running along the surface of the ground at the same height above main sea-level throughout its length.
(*m*) Meridian—a true North and South line.

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(*n*) Magnetic Meridian—a Magnetic North and South line.
(*o*) Local Magnetic Alteration—the deviation of the Magnetic Needle of a compass from its main position, owing to presence of iron ore in vicinity.
(*p*) Setting a map is the process of placing the map so that the North line points North.

NOTE.—Yards, feet, and inches are expressed as follows: 5^{x} (5 yards); 5′ (5 feet); 5″ (5 inches).

CHAPTER XII

REPORTS AND MESSAGES *

A GREAT deal of time is usually wasted by sending the Scout out into the country to report on something before he has been thoroughly instructed indoors.

It is, for instance, useless sending in information about the enemy or the country which the Officer to whom you are addressing the report has already got in his possession. Reports should always be clear and concise; get your report in quickly; information delayed in transmission is often useless.

Report exactly what you see and don't exaggerate. Don't write about a large number

* "Reference Field Service Regulations," Part I., 1909. (Reprint, 1912.)

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of the enemy or of a large river, as neither message would be of any actual use to the recipient.

Negative information is of the greatest importance, and so also is the repetition or confirmation of information already sent in; but what should chiefly impress the Scout Officer is the importance of first of all carrying out this work indoors before commencing work in the country. It saves time and labour, and in cold and wet weather it is much better for the class. You will find later, when you do send one of your men into the country to make a report, he will hand in, at any rate, a passable one.

The first point to impress on the Scout is the actual framework of a field message or report. Note the following twelve headings:

(1) Reference Map. (If a Map is referred to, the one used must be specified.)
(2) *Give *abbreviated title* of *unit* for whom the message is intended, followed by the address.
(3) Number of Sender's message.
(4) Day of month.
(5) If the message is in reply to, or has reference to, a message from the addressee, the number of that message will then be quoted.

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* The writer of a report or message is responsible that any abbreviations he may use are such as will be understood by the recipient. The abbreviation H.Q. is *only used* in addressing GENERAL HEADQUARTERS.

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(6) Text of message (numbered paragraphs).
(7) Clearly signed in right-hand bottom corner.
(8) Rank and appointment of sender.
(9) The force he is with.
(10) Place at which message was written.
(11) Time of despatch.
(12) Method of transmission.

N.B.—Pars. 3, 4, and 5 should always occupy one line. Army Form C 2121 is not issued to Scouts. They should be supplied with Army Book 155.

When the Scout thoroughly understands the actual framework of a report, he must be trained to write clearly and concisely, and to know what to report and how to report; he must be made to avoid stating anything of an indefinite nature. The hour of 12 will be followed by "Noon" or "Midnight," written in words. A night will be described as "Night, 29/30, September." All names of places and persons will be written in BLOCK CAPITALS. If a map is referred to, position of places are described by the points of the compass—*e.g.*, "House 800^{x} S.W. of 'B' in 'BECKWORTH,'"—or when no points of reference are available by actual compass bearings—*e.g.*, "Hill, 1,500^{x} true bearing 272 degrees from CHILTON CHURCH." The terms "right" and "left" are used in describing river banks; (facing downstream, the

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right bank is on your right, and the left bank on your left). If the term "right" (or "left") is applied to our own forces in retirement, it is to be always understood that it refers to the original "right" (or "left") flank when facing the enemy. Care should be taken to distinguish between what are impressions and hearsay only and what are facts. The writer, having finished his report or message, should read it through carefully at least once, and, if possible, get someone else to read it, in order to assure himself that it is clear. A copy of all messages sent will be kept by the sender, the copy and original being endorsed with the method and hour of issue and transmission. Important communications should be sent by more than one means. Communications of a secret nature should usually be in cipher if there is any danger of their falling into unauthorized hands, but the advisability of departing from this rule must be considered when there is urgent reason to avoid the loss of time caused by enciphering and deciphering (see Cipher, Chapter XXII.).

If the Scout reports on the enemy he should state: (1) The number (being careful not to exaggerate); (2) at what place he has seen them

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and whether they are camped or on the march; (3) if on the move, direction they are going, formation, and of what arm; (4) he should also state the time he has seen them, as the time of despatch of his message may be considerably later.

The following messages are given as an example of what might happen on Service if Scouts are not trained thoroughly in making out reports:

(1) 10/6/01. 10.40 a.m.

A commando of Boers, about 400 strong, seen about 1 mile to my right flank.

F.M.S., Cpl.,
1/c Scouts.

(2) Forty Boers passed here ½ hour ago, going west.

F.M.S., Cpl.,
1/c Scouts.
POP INN, POPTON.

(3) Enemy occupying position just W. of ERMILO, 11.30 a.m. 29/11/00.

(Unsigned.)

No. 1 message was useless, as Corporal S. did not state where he was.

No. 2 message had no time or date on it.

No. 3 message, no signature and no place.

In each of the above cases the message would be useless.

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Messages often pass through many hands before reaching the actual recipient; you cannot rely on one man delivering the message himself.

If possible, get some 6-inch maps and make the class write reports from the information you give them—*e.g.*:

"A Scout sent out from Headquarters, 1st Infantry Brigade, HOXTON INN, arrives at cross-roads 400ˣ S.E. of 'M' in PLYMPTON, at 4 p.m. on April 29, 1912. From this point he sees one Company of the enemy's infantry moving in a W. direction across his front, distance about one mile.

EXAMPLE No. 1.

Reference 6" Ordnance Map. HOXTON.

1ST INF. BDE. HOXTON INN.

Number 86, —— 29th ——

(1) On arrival here, 4 p.m., saw one Company enemy's infantry at Point 257, moving in fours in W. direction across my front about one mile distant.

(2) Strength not more than sixty.

Despatch, 4.35 p.m.

per Pte. Jefferies, on bicycle.

W. PRATT, Cpl.,
1/c No. 4 Group Scouts,
EAST SURREY REGT.
400ˣ S.E. of "M." in PLYMPTON.

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Or—

"On receipt of a message from Headquarters, 1st East Surrey Regiment (No. 45, dated May 20) from ESCOT BRIDGE, a Scout proceeds to reconnoitre for the enemy in a certain tract of country. He arrives at a farm 500× N. by W. of 'G' in GRANTHAM at 12 midnight, May 20-21, having thoroughly searched all the ground in the square, GRANTHAM—MANACCAN—cross-roads half-mile W. of 'W' in WADE—LIPTON. He can find no trace."

(Negative report most important.)

Example No. 2.

Reference 6" Ordnance Map. Sheets Nos. 454, 455.

1st East Surrey Regt., ESCOT BRIDGE.

Number 87, —— 21st. Your Number 45.

(1) No enemy in square GRANTHAM — MANACCAN — × roads ½ mile W. of "W" in WADE—LIPTON.

(2) Arrived here 12 midnight, 20/21.

(3) Shall wait here for further instructions.

Despatch 5.30 a.m. by Mounted Orderly.

W. Siggins, Cpl.
1/c No. 3 Group Scouts,
East Surrey Regt.

Farm 500× N. by W. of "G." in GRANTHAM.

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NOTE.—(1) A plan or panorama sketch is a useful adjunct to a report, and on occasions all essential information can be conveyed on the plan, and the report dispensed with altogether. Ranges in yards to conspicuous points should be indicated on these sketches, if possible. A plan sketch should be drawn roughly to scale. The true North should always be indicated, so also should the place from which such a sketch is executed, and the direction in which the sketcher is looking. (2) Scouts must be trained to keep copies of *all* messages they send.

There are many similar exercises you can give them. Correct them one by one and point out mistakes made to the class.

In the same manner you can test their Map Reading and get a topographical report by informing them that they have travelled from X to Y, two miles apart, for the purpose of making a topographical report. Let them first of all make this report from the map, and later make the answers harder by letting them study the map for five minutes and then make the report from what they can remember of the country. It is, of course, better to work these answers on a 6-inch map.

(For Reports on Roads, Rivers, etc., see Chapter XVII.)

Signal Messages.—If a signal message is to be delivered to more than one addressee, separate

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copies should, if possible, be handed into the signal office.

Important numbers should be written in words.

The use of Roman numerals is forbidden.

Complicated phrases are to be avoided.

Letters AAA should be used for a full stop. The word "stop" should not be used to indicate punctuation, as it may affect the sense of the message.

When important words are used, such as "NOT," they should be written in block capitals.

Transmission of Verbal Messages.—This must be practised a good deal. Extend your Scouts 20x apart. Send messages from one end of the line, your N.C.O. taking them down at the other end. Short messages at first. Numerous mistakes will be made, but after a month or two great improvement will be noticed. After having passed about twenty messages, parade your class in single rank, let them close in on the right in the same order. Read out the correct message, and then the message as received. If wrong, find out where it went wrong. By questioning each individual man you can generally find the man who is at fault.

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A few examples of messages are given below:

To:
Capt. ROBERTS,
ONE TREE HILL.

Move your Company into firing line.

2 p.m. *From:* Colonel DOBBS,
Commanding Royal Irish Regiment.

To:

Commander No. 4 Section.

Open fire on enemy half right.

4 p.m. *From:* Commander "H" Coy.,
East Surrey Regiment.

To:

O.C. IRISH GUARDS.

Enemy's fire increasing. 30 casualties. Reinforcements required before further ground can be gained.

5.50 p.m. *From:* Commander,
"H" Coy., Irish Guards.

A Scout at any time may be called upon, and probably would be selected if he happened to be near at hand, to carry an important verbal message. The message might be a long one, and no time to write it down. If your men are trained properly in passing messages, they will easily grasp the essential points of a long

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message and repeat it accurately; there should be no question about a short message being repeated incorrectly.

When reports or messages are issued verbally, or sent by signal, they will be confirmed in writing whenever it is practicable to do so. Scouts should be trained to give verbal reports without hurry or excitement, otherwise on Service both hearer and speaker are liable to become confused.

CHAPTER XIII

SIGNALLING*

IT is most important for the Scout to have a very thorough grasp of Signalling in all its forms—Morse, Telegraphy, Flags, Helio, Lamps and Semaphore.

Semaphore.—On Manœuvres one so often sees somebody calling up (Semaphore). This is answered, and the message is sent. The receiver, after watching the sender for some seconds, finds he cannot read the message, sends the stop signal, and gets a pal of his to try and read it. This is unsuccessful, and in the

* Reference, "Training Manual Signalling."

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end a signaller is found, and he gets the message correctly. By this time an orderly could probably have run backwards and forwards half a dozen times with the message. It is an absolute necessity that the Scout can send Semaphore very rapidly and read it rapidly. This requires a great deal of practice. Messages on Service must usually be sent quickly, and to send a message quickly and accurately, a lot of training is required. So a day should not pass without giving up a short time to Signalling.

A Scout must be a trained signaller, and you should be able to get your whole class—say, after a year's training—passed as qualified signallers in the tests laid down in "Training Manual Signalling" for Trained Signallers. There should be no difficulty—in fact, it should be your aim —to keep your Scouts above the standard of Regimental Signallers, if it is possible to do so. Encourage the class to work in spare time, and have a large copy of the Semaphore Code hanging in the Barrack Room.

Scouts have better opportunities than others for reading an enemy's signals, so it becomes doubly important for the Scout to be a very highly trained signaller.

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1. Semaphore signalling by day is a far speedier method of communication than Morse-Flag, and can be carried out by arms and hands, or with flags. Care must be taken in teaching the class that the angles are made absolutely correctly.

When signalling with arms only, which usually is the Scout's only way, be particularly careful that in sending a message the hands are extended, fingers together, and palms of hands towards the receiver; also be careful that the sender stands square, facing the man to whom he is signalling. Scouts should be particularly careful to signal in positions *not visible* to the enemy, and always take particular care that the background shows up their movements to the receiver when sending a message. When reading a message in a strong light, keep yourself in shadow.

2. If, when receiving a message, you miss a letter, or for some other cause you require the sending station to stop, you must signal R. J is then sent by sending station. Receiving station then signals last word correctly received, and then sending station continues with next word.

When numerals are to be sent, send numerical

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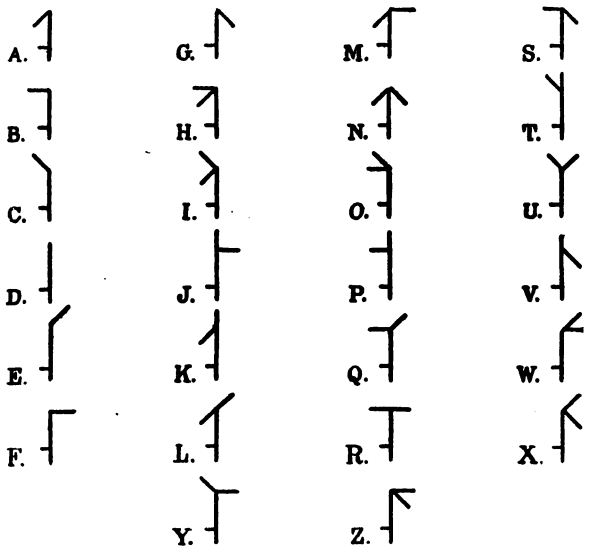
sign—right arm at D, left at E, then the sign for the figures, which should be at once repeated

SEMAPHORE CODE.



by the receiving station. When figures are finished, send J (alphabetical sign). When figures are repeated incorrectly by the receiving

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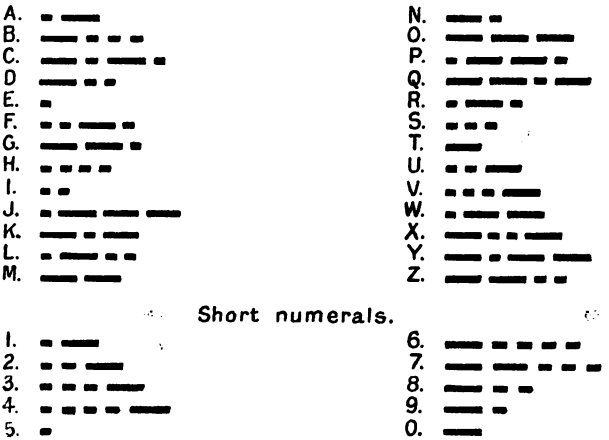
station, the sending station then erases the signal (opposite to letter L).

T is the general answer for all words except cipher and figures.

MORSE CODE



NOTE.—The Scout N.C.O. should be a qualified Assistant Instructor of Signalling.

For cipher or any very important word, letters CC are signalled, and acknowledged by T. The

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receiving station acknowledges each group of cipher, or important word, by repeating it; when cipher or word is finished, CC is again sent.

Z is the signal for BLOCK CAPITALS; they continue until another Z is sent.

FI (figures intended) is signalled before sending numerals. When finished numerals, FF (figures finished) is sent.

Receiving station on receipt of figures sends back check letters, viz.:

1—a, 2—b, 3—c, 4—d, 5—e, 6—f, 7—g,
8—h, 9—i, 0—k.

The Signals laid down in "Infantry Training" should be known by a Scout, viz.:

Advance, retire, halt, right incline, left incline, double, enemy in sight in small numbers, enemy in sight in large numbers, no enemy in sight, etc.

NOTE.—Additional signals may be used. They should be simple, and every Scout must know them. Great care must be taken in training Scouts to avoid allowing the enemy to read signals. Scouts can be trained to make noises like birds and animals, but it is obviously better usually to employ signals of a silent nature.

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CHAPTER XIV

THE USE OF THE PRISMATIC COMPASS, PROTRACTOR, AND CLINOMETER *

EVERY Scout must have a prismatic compass and protractor, if possible. He may have to guide troops at night; he often has to find his own way at night by compass. He is trained in peace-time to use a prismatic compass, so he is surely entitled to one on Service. My Scouts all had compasses, but only six of them had prismatic compasses.

Of the many kinds of prismatic compasses there are none to beat the Service Prismatic Compass, Mark V.

The instrument consists of a magnetic needle balanced on a pivot, carrying a dial divided into degrees, contained in a metal box, round which is a brass ring graduated to show every fifth degree and the points of the compass.

The metal cover opens on a hinge, and is fitted with a glazed window, on which is traced a fine black hair line, for use as a sighting vane.

* Reference, "Manual of Map Reading and Field Sketching."

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Opposite the hinge of the cover is fitted a prism, through which can be read the graduated edge of the dial, while at the same time an alignment of the object, and of the sight vane on the cover, is observed through the slit above it. The prism should be moved up and down in its slot till the figures on the dial are properly focussed. A clamping screw is provided for clamping the needle when not in use, and a clutch ring for checking its oscillations when observing. A brass ring is attached for convenience in holding it.

The dial is "luminous" for night-work; the North point is marked with a large diamond-shaped figure. A revolving glass is fitted over the compass dial, and on the glass is a black deviation mark radiating from the centre, at the end of which is a small brass setting vane, the latter working over an external arc graduated to 360 degrees. A brass screw is used to clamp the glass on the inside of the cover on two luminous patches, which give a good alignment of the instrument at night when it is held in the hand with the cover wide open. There are two small holes in the brass window edge of the cover, so that if the glass breaks, a horse hair

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can be run between them and an extemporized sight can be utilized.

The compass dial is graduated with two sets of figures, which read Eastward of the Meridian, or from left to right, like the hands of a watch; the outer set is for use with the prism, and commences at South in order that the bearing of the object may appear under the eye. Thus the vane being directed on an object which is 50 degrees from North, it is that number measured from South which appears under the prism, or, in other words, 180 degrees is over the North end, and 360 degrees over the South end of the needle. The inner set of figures is of use for direct reading (*i.e.*, without the prism), as for compass marching, or when the instrument is used with the plane table (see Diagrams).

To use the compass, turn up cover and see that it is upright. Turn up prism, raise or lower it, until divisions in the dial can be clearly seen. Face the object, hold compass by ring in front of body, watch swing of the dial, by pressing the check spring check the dial midway in its swing; when quite steady, raise the compass carefully to the eye, holding it horizontally, so that the dial does not touch cover. Hold the

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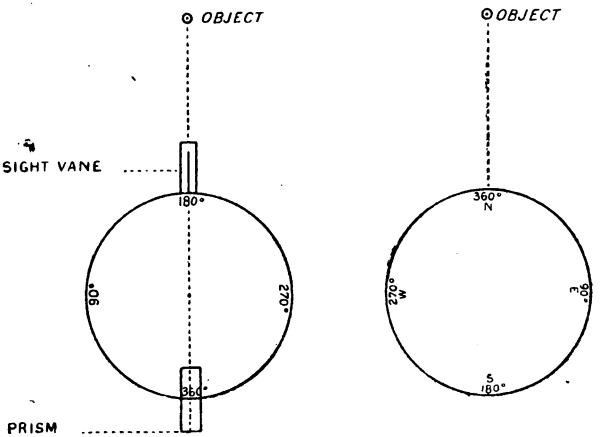
ring with thumb and first finger of right hand, with the second and third fingers of right hand underneath compass, supporting it. Thumb of left hand ready to operate check spring, remaining fingers of left hand holding and supporting



compass underneath fingers of right hand. Observe the object through the slit over prism, and when the hair-line is aligned upon it read the division on the dial which is cut by the hair-line. This will be the bearing of the object. The dial must be at liberty when the observation is taken,

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and the instrument must be held quite level. Three observations should be taken to insure accuracy.

Practice and a certain amount of knack, which is easily acquired, are required to take bearings quickly and accurately. In windy weather it may be necessary to kneel, resting the elbow on the knee, or resting the compass on some suitable object.

All compasses are affected by local magnetic variations; one must be careful not to take observations near anything in the shape of iron. In parts of South Africa there is so much local attraction that it is useless to work with a compass at all.

If a bearing is taken in the daytime for a night march, the same compass *must* be used on the night march.

The same thing applies to a sketch. The whole of a sketch should be executed with the same compass (see p. 125, with reference to using compass at night).

Advantages of Prismatic Compass.—(1) Portable. (2) Inconspicuous, and a sketcher is not so likely to be detected if secrecy is desired. (3) The observations can be registered in a field-book and

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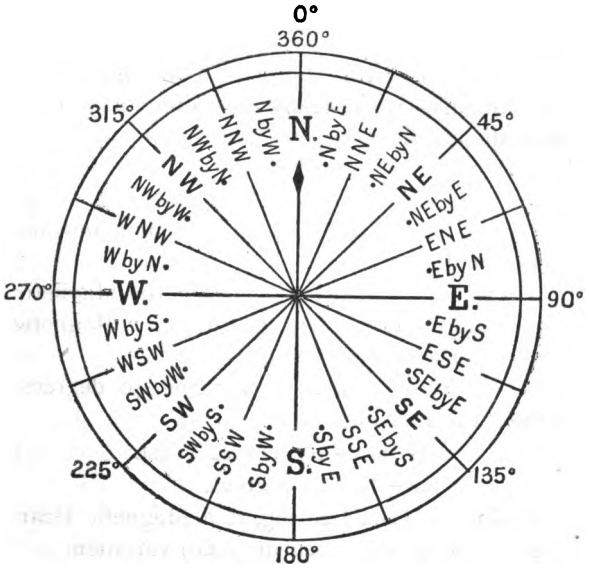
plotted afterwards; this is useful if a sketcher wants to get over the ground rapidly; for instance, to keep pace with a moving column. (4) In wet weather observations can be registered.



Disadvantages.—(1) Subject to local attraction. (2) Unsuitable for taking observations up or down hill, because the compass card jams against

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the cover and loses its balance. (3) The needle will not come to rest in windy weather.

Points of the Compass.—There are thirty-two points of the compass; each point is worth $11\frac{1}{4}$ degrees. The diagram on p. 81 shows the graduation.

True and Magnetic Bearings. (To convert one to another.)—It is usually most difficult to teach men the above. Mistakes are continually made, and as it is a most important item for a Scout to get hold of, it is as well to teach him in as simple a manner as possible, with no risk of a mistake being made.

When Variation is West.—Given the Magnetic Bearing, find True Bearing. M.B.D. (Magnetic Bearing Deduct) variation.

1. Example: Magnetic Bearing 40 degrees. Find True Bearing:

Variation – 16 degrees West.

40 – 16 = 24 degrees.

Given the True Bearing, find Magnetic Bearing. T.B.A. (True Bearing Add) variation.

2. Example: True Bearing 50 degrees. Find Magnetic Bearing:

Variation 17 degrees West.

50 + 17 = 67 degrees.

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When Variation is East.—Do exactly the opposite to the above—viz., Add variation in case of 1 and deduct in case of 2.

All the Scout has to remember are the formulæ M.B.D. and T.B.A., and he *cannot go wrong*. If he likes to check his work by other means, let him do so, but this system is simplest and quickest, and is absolutely reliable.

To Find the Variation of your Compass.—Everyone *must* know the variation of his compass. First of all find the True North, then take its bearing with your compass.

Approximate Ways of finding True North.—1. At noon the sun is South; an upright post will give you an approximate North and South line.

2. By watch and sun.

3. End of March and September sun rises East and sets West.

4. In Southern Hemisphere by Southern Cross when its longest limb is vertical.

5. Place two crossed sticks on level ground, with pole leaning between them pointing towards North. Fix a line with weight attached on end of pole, line long enough to just reach the ground *A*. Take the point *A* where it touches

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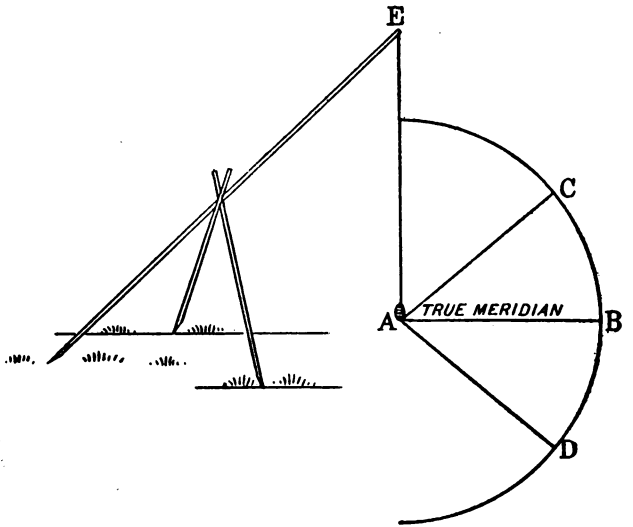
the ground as a centre, and describe a circle *CBD*. Watch shadow of pole gradually getting shorter and shorter just before noon until the end of the shadow touches the circumference



of the circle. Mark this spot *C*. The shadow lengthens again after 12. Watch it until it lengthens sufficiently to touch the circumference of circle. Mark this spot *D*. Bisect the arc

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between the two marked spots *B*. Draw a line from the point of bisection to the centre of circle —this line *AB* will be the True Meridian.

Finding out Variation of Compass.—Example No. 1: The bearing of True North is found to be 345 degrees. What is the variation of your compass?

Describe a circle, draw line *AB* representing True North and South; write over *A* (the True North) its bearing—viz., 345 degrees.

Magnetic North will come 15 degrees to the right—line *CD*.

Answer: 15 degrees East.

Example No. 2: The bearing of True North is found to be 5 degrees. What is the variation of your compass?

Describe a circle, draw line *AB* representing True North and South; write over *A* (the True North) its bearing—viz., 5 degrees. Magnetic North will come 5 degrees to the left—line *CD*.

Answer: 5 degrees West.

Protractor.—A protractor is a necessary article of a Scout's equipment. It is usually made of boxwood and is 6 inches in length. It contains

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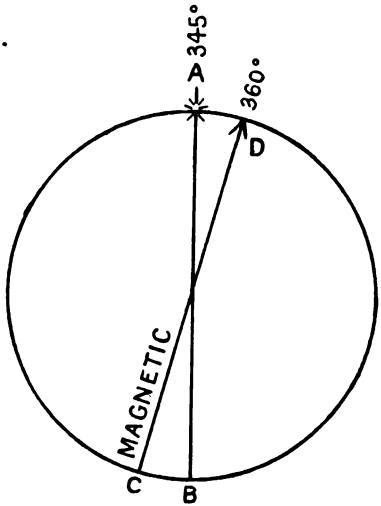
two scales of yards, scale of horizontal equivalents, etc. It is most useful for sketching, and also for reading and plotting angles. The edge, graduated in degrees, is for reading and plotting



angles, the arrow showing the centre from which the angles are drawn.

You are in a strange country at a place called X. At 10 o'clock at night you are sent for and told to proceed to Y, a short distance off, with

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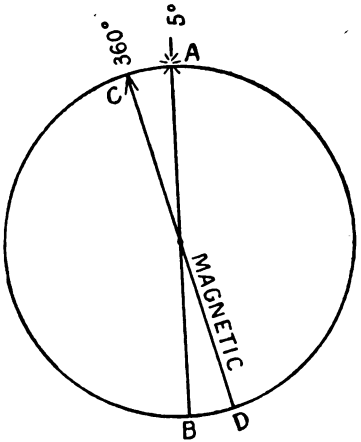
a very urgent message. Outside your tent it is pitch dark, no moon or stars. How are you going to get there?

This is the best way. Get your map, join up the two points very carefully with a fine pencil



line, prolong it if necessary, lay your protractor on the map, placing the arrow against the spot X; be careful, at the same time, to keep your protractor parallel to the sides of an Ordnance Map, which run due North and South. If the

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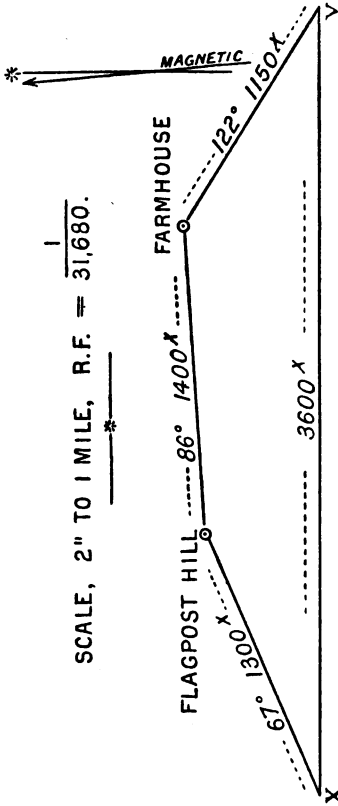

point Y is in the slightest degree to the East of X, place your protractor on the East side of X; if to the West, place it on West side. You then read the bearing where the line cuts the edge of the protractor. Be very careful to get it accurately. Having obtained the True Bearing, find the Magnetic (T. B. A.) as already explained, and set your compass for a night march. If the distance between X and Y is a long one,

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say two miles, it is advisable to take two or more bearings to prominent objects not far out of the line of advance (see Scale opposite).

It will take slightly longer in this manner, but it is a certain way of getting there. X to Flag Post Hill, 67 degrees; Flag Post Hill to farmhouse, 86 degrees; farmhouse to Y, 122 degrees —all True Bearings, therefore add variation to get Magnetic Bearings and pace distance.

Clinometer.—Is an instrument for reading vertical angles, and is extremely useful for sketching purposes. The class should be carefully instructed in the use of this instrument by the Scout Officer.

It consists of a semicircular arc attached to a bar, which is pivoted midway. One end is weighted, and so adjusted that the bar always remains vertical.

This is contained in a case which has eye-holes. Attached to the inside of the case is a small mirror facing the arc; the observer looks through the eye-holes at the object, and at the same time sees the degree of slope reflected from the arc into the mirror.

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CHAPTER XV

VISUAL TRAINING AND JUDGING DISTANCE *

THIS is not the least important branch of a Scout's training: Eyesight *must* be improved to such an extent that in the course of a few months' training small objects in the distance are at once picked up and the smallest moving object is immediately noticed, whereas without this very essential training these things pass unnoticed.

1. Take your class out to some high ground, point out a section of the country in the distance and ask them how many moving objects they can see. The Scout Officer can use his glasses and verify all answers. Point out objects in the distance and have them described to you. Take head and shoulder figures, painted in various colours, placed at different distances, and let the class find them all. In all these lessons it makes the men more interested if you make it a competition between groups.

2. Send out two groups to hide at distances varying from 300 yards to 1,400 yards, and on

* Reference, "Musketry Regulations," Part I.

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a pre-arranged flag signal from you let one man at a time show himself, some of them showing their heads and shoulders, others kneeling in the open, others lying, and some only showing heads. The remaining two groups must locate them and judge distance on them. Check the distances by the Range-Finder, and give reasons for the over-estimation or otherwise of their answers. Distances can sometimes be taken from a map.

Let the men stand well apart when judging distances, and adjust the sights on their rifles to the number of yards they think the object is away. The men in turn can use the Range-Finder, noting the correct distances, instructed by the Scout N.C.O.

Always judge yourself, and give your estimate of the distance first.

NOTE.—The Japanese say that in actual battle distances are generally under-estimated, and that distances judged whilst lying down or kneeling are usually over-estimated.

There are several methods of judging distance. One of the best ways to teach a class is the following :

Judge the distance by what the eye thinks it is, and check it by the unit of measure method.

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What the Eye thinks it is.—In war you judge distance principally on men, so each man must be taught to recognize what men look like at all ranges up to 1,400 yards. The following notes may be of assistance:

Under normal conditions of atmosphere and eyesight at—

200 yards—the whole man can be seen.
300 yards—face not clear; buttons blurred.
400 yards—face cannot be made out, but outline of body can be seen.
500 yards—movements of limbs can be seen; outline of body not clear.
600 yards—outline of body less clear, and head shows as a speck.
700 and 800 yards—very difficult to make out man standing still, unless under very favourable conditions. The head can still be seen, but very indistinctly.
900 and 1,200 yards—a moving object might be recognized under favourable circumstances, but a standing figure would appear like a stick.
2,000 yards—troops are just visible.

Place men at these different ranges and see what they look like. Eyesight varies a good deal, so let each Scout make out a table for himself. Note the following:

1. If object and background are of the same colour, the distance is usually over-estimated and *vice versa*.

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2. In open country the distance is under-estimated; in close country over-estimated.

3. The various causes of under- and over-estimation—effect of light, background, etc.—are dealt with more fully in "Musketry Regulations," Part I., and should be carefully studied.

NOTE.—Church towers can be seen on a clear day 10 miles away; windmills 8 miles.

Unit of Measure Method is most simply taught by taking as a unit say, 100 yards. Point a tree out some 300 yards away, and instruct the class to stand where they think it is 100 yards from that tree. Take part in this yourself; it makes the men keener. When everyone has decided on his estimate, let one of the men step 100 yards from the tree. At first you will find some of the class as much as 50 yards out in their estimate, but in a very short time their answers will become very accurate under all conditions.

To sum up, estimate the distance by the look of the object, then check it in the following manner by the unit of measure method.

Take half the distance and decide in your mind what that is, then multiply by two. The difference between the two methods should then be halved and the mean distance taken. If

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more than one Scout is judging distance, take the average.

NOTE.—A football ground is about 100 yards long. A cricket-ball can be thrown 100 yards. In judging 100 yards remember the above; they may help you.

Judging Lateral Distances.—Place a man 500 yards away. Hand clenched and at arm's length, the width of your hand should give *about* 100 yards lateral distance. At 1,000 yards arm at full length and three fingers held vertically; at 1,500 yards, two fingers; and at 2,000 yards, one finger—all should give *about* 100 yards lateral distance. Practice will give you the exact distances and number of fingers to hold out. A good plan is to have two fatigue men placed at, say, 500 yards' distance; make one man walk away from the other until he has reached the spot that you judge it to be. Halt him then, and check by pacing the distance between the two. Do the same at 1,000, 1,500, and 2,000 yards.

Judging Distance by Sound (see p. 119). — Train your men to count ten in three seconds; each unit corresponds roughly to 100 yards (350 yards per second being rate of sound in still weather).

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Hide men at different places and let them fire blank; judge only by sound.

NOTE.—When carrying out Judging Distance Tests, change your ground daily.

Pointing out Objects.—Before concluding this chapter, it is necessary to say a few words under this heading. It is important that the Scout be able to point out an object without loss of time and in such a manner that there is no mistaking what object he means. On Manœuvres how often one hears:

"Look at that man over there!"

"Where?"

"Why, right on the skyline, by that tree."

"Which tree?"

"The tree next to that big house."

"Do you mean the house with the red roof?"

And so on.

Now to make this work simple, they have a system at the School of Musketry, Hythe, called the clock and finger method, and it is an excellent way of pointing out objects quickly.

The class is taken on to high ground. The country in the distance is divided into sections (usually not more than three).

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Each section is represented by a landmark such as a church, railway-station, haystack, farmhouse. Each landmark (or descriptive point) is pointed out to the class, so that directly a descriptive point is named, they at once look at it. The position of the object with reference to the descriptive point is worked out by directing the attention to an imaginary vertical line passing through the object, this line being so many fingers' breadth right or left of the descriptive point. The fingers of *left* hand must be held vertically (for all angles except 6 and 12 o'clock) and at *arm's length*. Fingers should be just clear of descriptive point and object. Measure across broadest part of fingers, not finger-tips. The position of the object is indicated in the vertical line by means of an imaginary clock placed on the descriptive point. In pointing out an object train your men to work on the following system, viz.:

1. Descriptive point.
2. Clock angle.
3. Right or left (this is to avoid mistakes).
4. Number of fingers.
5. Object and part of object.

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Example:

Church—3 right, 4 wall right edge, or:
Haystack—9 left, 2 house front-door.

The fewer words used in pointing out an object the better. It is unnecessary to use such words as "o'clock," "fingers." Train your men properly and you will find it simple.

You can perhaps more quickly point out an object by saying simply:

Farmhouse (descriptive point) 2 (fingers) left ploughed field, right corner; or—Haystack 2 (fingers) left boat on river.

Pointing out objects in service must be carried out accurately and rapidly, and a sound system must be established in peace training. In flat country with no obstructions the clock method should not be used for obvious reasons.

NOTE.—In giving fire orders, the only difference to above is that you give the range first and the rate of fire last, the reason for this being that when once a man's sight is fixed, he need not again take his eyes off the object. Example:

1,000.—Red house, 2 right, 4 hedge right edge.
Fire, or number of rounds rapid fire.

This plan of giving out fire orders is a very excellent one in the defence, or perhaps in the attack, at long and distant ranges; but at closer ranges experience shows that few fire

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orders are given, and those that are given are either not heard or not taken much notice of in the heat of an engagement except under very favourable conditions to the attacker —viz., cover, enemy's fire very slight, etc.

CHAPTER XVI

USE OF GROUND, TRACKING, AND BACK-GROUNDS

EXPLAIN to your class how small folds in the ground will cover numbers of men. Show them how easily you can get cover from view within a few yards of where they are sitting. Next make No. 1 Group sit down and turn in opposite direction, whilst the other three Groups take cover in folds of ground as close as possible to No. 1. Give them thirty seconds, and then allow No. 1 Group to turn round; any man they can see is made to come to them; the remainder who are not seen stand up on your whistle sounding and remain where they are. With a little practice your men will notice cover and get out of sight very quickly. Try this on different ground daily, and see which Group comes out best. Point out folds in the ground that would cover from view a Battalion of men, which a few yards away are hardly noticeable.

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If possible, watch a Company when training, and see how easy it is for them to get cover from view quickly.

Concealment. — Scouts should be carefully trained to quickly conceal themselves from view from hostile aeroplanes. This requires much practice. If they are trained to lie perfectly still, a good deal has been accomplished. (See p. 180.) Practise moving your men along the side of a low wall or hedge; post one Group fifty yards on the other side, and let them watch the wall or hedge closely to see if they notice any signs of movement. Let your men practise moving in a crouching position, on their hands and knees, and crawling on their stomachs, and wherever these lessons are carried out, have a Group or Groups on the lookout, watching the movements and pointing out faults, etc.

Place No. 1 Group on the far side of a ridge and let the remaining Groups work up to the ridge; let No. 1 Group point out any men's heads they see, and then find out if any men have got into position on the ridge, from where they can be seen, without being noticed by No. 1 Group. Conceal a man in a wood or on some high ground. Send out a Group to approach

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him; let him fire a round of blank when he can see approaching Scouts. See how close Group can approach without being seen. Send off a Scout from one end of a road to reconnoitre a Group or Scout approaching from the other end. Note which party sees the other first.

Approaching Skyline.—Show the class how to approach a skyline; do it yourself whilst they look on. Then let one Group at a time approach the ridge, whilst the remaining Groups watch proceedings. Note which Group carries out this exercise best. Never show yourself above the skyline; approach a crest line cautiously, make use of folds of ground. Some way below the crest fall on your hands and knees, and the remaining part of the journey must be made on your stomach, being careful to keep your body, head, heels, and elbows close to the ground; like everything else, constant practice is required. On arriving at the crest, or where you think the crest is, raise your head very gradually—take plenty of time in doing so; if you cannot see, lower your head gradually and move on a little and try again, until you *are* in a good position. Remember that Scouts and Artillery Officers are probably watching this

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ridge through telescopes. Keep your head perfectly still when once you have raised it; if possible, before raising it, hold some grass up, or whatever is best, to cover the movement of your head. A Scout must learn the quickest way to get to a crest line or lookout place; it should be second nature to him to spot such a place at once.

Following up an Enemy.—Send on a Group and let the other Groups follow them up and keep them in view. If the leading Group (representing enemy) turns round and sees any men of the Groups following, these men are at once put out of action. Motto: Keep the enemy in sight, but at the same time keep out of sight yourself. Learn to climb trees. Useful information about the enemy and the country may be gained in this manner. Never pass under a tree without looking up into it. See how near you can get to a horse or cow grazing in a field, or to a rabbit or bird, without disturbing them. Always work against the wind.

Backgrounds.—First of all give object lessons by placing men against variously shaded backgrounds at different distances; move them one way or the other by signal and notice the differ-

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ence. Afterwards let Groups select their own backgrounds, and point out mistakes. Impress on them the importance of keeping still; directly they move, it is easy to locate them. Train them to keep in dark shadows when observing.

You must always think of your background and the colour of your uniform when Scouting.

Tracking.—This is a subject that takes many a long day to master, and yet to be really a successful Scout, you must be a good tracker. *Practical work is essential.* You should study the various imprints made by a man running or walking, a horse galloping, trotting, and walking, wheels of waggons, motors, and bicycles, and cattle tracks. This entails practice over hard ground, soft ground, etc. First of all learn to at once recognize a track, by constantly examining them. Get a horse on soft ground, likewise a man, and examine the tracks they make in their different paces. When you have thoroughly learnt to recognize tracks, you must pay attention to the length of time tracks have been made; by making tracks in moist ground you can watch them day by day and note what they look like and how they change. Heavy dew, wind, sun, rain, and frost, all affect tracks, and make them

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appear older than they really are. Droppings of animals can be seen and smelt, and provide a great help in tracking, as they indicate the age of the tracks. (Looking out for tracks—being observant—comes also under Chapter X.) A Scout can guide a column by laying a track; he can use stones, earth, or blaze trees, etc. A Scout at the head of the column must understand the signs, and Regimental Scouts should be trained accordingly.

When elephant hunting in Burma a brother officer and myself tracked three elephants for four days. None of the Burmans who accompanied us were of any use as trackers; we had to do all this work ourselves. The ground was very hard, water there was practically none, and the heat was terrific. We lost the tracks on many occasions, but found them again by carrying out the following plan: First of all we made all our followers lie down. One of us would then proceed in the original direction the tracks were going, and the other would walk round the place where the tracks were lost in ever-widening circles. If there is moist ground about it makes tracking as easy as ABC, but on hard ground it requires a tremendous amount of experience and

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hard work. One other point to note when tracking is to train your men to look a little way ahead and not directly down on the ground by their feet.

When moose hunting in Canada, the trackers there appeared to me absolutely marvellous. They seldom make a mistake when once on a trail, and although continually passing over fallen timber and loose twigs, they made no noise in their advance, and brought one eventually close up to the moose.

Train your Scouts to follow a motor or bicycle track. They should know which direction it is moving in and the pace. If there is much motor or bicycle traffic on the road, cuts in the tyre may make the tracking easy. Passing through mud or water will show wet tracks in direction machine is travelling. The side of the road the tracks are on, or when machine passes another vehicle on the road, helps one to find the direction. Small pebbles and stones on the road will give the direction by noting carefully which way they were pushed forward when wheel went over them. In very wet weather the mud splashes from wheels are shown in direction machine is going. A bicycle moving slowly is not as steady as one moving fast.

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With years of practice you quickly notice tracks, and not only follow them with the greatest ease, but read meanings from them, as if you were reading a book.

NOTE.—Avoid using roads or paths in vicinity of enemy where footmarks may betray your presence.

Signs.—Scouts should be given practical instruction by watching the dust caused by Cavalry and Infantry, and be able to know at once which of these two arms is causing the dust. They should know what to look for in deserted camping grounds, and from what they see there should be able to read meanings and get useful information about the enemy. The number of fires and space occupied by the fires may give a rough idea of the number of troops encamped on the spot. Friendly inhabitants may give most important information if carefully questioned. Ask plain, straightforward questions, and do *not* suggest the answer. Practice in examining ground where fires have been lit and died out can be given to your class; they should be able to judge approximately how long these fires have been out by feeling the ashes for heat, and by smelling them.

Numbers.—Numbers of the enemy are always

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exaggerated in war and on Manœuvres. Take every opportunity of letting your Scouts watch the movements of large and small bodies of troops moving in the distance and close at hand.

Constant questioning as to the numbers they can see is the only way to improve your Scouts under this heading.

The following may be of assistance:

280 Cavalry in fours trotting 120 Cavalry at a walk 200 Infantry in fours 5 Guns and Limbers, or 5 Waggons	will take *about* one minute to pass a given point.

To train your men, let them watch troops passing objects in the distance, and make them judge numbers themselves on above lines.

CHAPTER XVII

RECONNAISSANCE OF ROADS, RIVERS,* POSITIONS, ETC.

1. *Roads.*—General direction, width, metalled or unmetalled, telegraph lines, bridges, nature of surrounding country, fenced or unfenced, gradients. Note any bad places on roads where transport is likely to become blocked. Places

* Reference, "Field Service Pocket-Book," and "Manual of Map Reading and Field Sketching."

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from which a view can be obtained should be noted, with the direction and extent. (See p. 111 for example of report.)

2. *Bridges.*—Material; nature of bridge, and how supported; height above water; length; width of roadway; condition; surrounding country; material for repairs; best way to destroy bridge. *Approaches:* It is important to know if a bridge will bear mechanical transport.

3. *Telegraphs.*—Direction; condition; number of wires; nature of pole, or if in subterranean pipes, whether apparently in good order.

4. *Rivers.*—General direction; average width, depth, velocity, tidal, if known; nature of banks fords and their condition; ferries and boats—if frozen, whether passable; surrounding country, whether fit for mechanical transport to cross. Owing to the variety of tactical uses to which a river may be put, the particular object of the reconnaissance should be ascertained before starting.

Tactical Considerations.

(*a*) *In an Advance*, or if advancing, Artillery positions (your own and the enemy's). The general line of defence, can it be enfiladed? Facilities for reaching the bank undiscovered,

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covering positions for your troops on the far bank.

(*b*) *In a Retreat.* — Defensive positions on enemy's side from which you can prevent enemy getting within shelling distance of bridge. Position on your own bank from which enemy's advance can be delayed. Arrangements for demolishing bridges.

(*c*) *When opposing Hostile Advance.*—Favourable positions to occupy in rear of the bridge. Can troops be readily brought up to these positions by separate and suitable routes?

NOTE.—Ice 3 inches thick will bear men in small detachments; 6 inches thick, horses and carts; 9 to 12 inches thick, waggons and guns.

5. *Railways.*—Name, direction, gauge, weight of rails, material, condition, tunnels, bridges, single or double line, stations, generating stations, water, telegraph wires, signalling system, rolling stock in station and at siding, coal, telephones, approaches to stations, number, length, breadth and height of platforms, goods-sheds, and lighting.

6. *Supplies and Materials.*—Meat, groceries, flour, forage, fuel, transport, carts, horses, forges and tools. Enquiries in towns will pro-

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duce better results in a shorter time than visiting a large number of farms. Go to the leading firms of grocery merchants, etc., find out stock in hand and at what intervals of time stock is renewed.

7. *Camping Grounds.*—Position, extent, nature, soil, water-supply, approaches, surrounding country, facilities for defence, forage, fuel, etc.

8. *Water.*—Quality, quantity, source of supply, number of horses that can be watered at same time. Approaches.

9. *Reconnaissance of Enemy's Position with a View to Attack:*

(*a*) The general front of the position so far as it can be ascertained. The probability of advanced troops covering the real position will have to be considered.

(*b*) Points from which a good view of the country occupied by the enemy can be obtained.

(*c*) Localities to which the enemy is seen to be devoting attention, and any others which would appear likely to be of special tactical value to him. The position of any trenches, obstacles, etc., that can be located should be carefully noted.

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(*d*) Lines which afford the attack most cover during their advance, and which offer facilities for covering fire, both from guns and rifles, when it is exposed to hostile view and fire.

(*e*) Tactical points on the above lines of advance and elsewhere, the possession of which will favour the development of superiority of fire over portions of the enemy's position.

(*f*) The manner in which the flanks are secured, whether they rest on natural obstacles or whether there are any indications of supporting troops and works echeloned to the rear.

10. *Reconnaissance of Defensive Position with a View to Subsequent Offensive Action :*

(*a*) Extent of position, localities of special tactical importance in it, and means of securing the flanks.

(*b*) Minimum force necessary to occupy the position.

(*c*) Positions for the Artillery and Infantry firing lines. These should be considered together, so that the best use of the ground may be made.

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(*d*) The best line or lines for the counter-attack.

(*e*) The most favourable lines for the enemy to attack on, and positions from which his artillery can best support such attacks.

(*f*) Any tactical localities, the possession of which might enable the enemy to develop superiority of fire against some part of the position.

(*g*) Any advanced position, the occupation of which might have the effect of misleading the enemy and forcing him to a premature deployment.

Report on a Road.

Example.

1. JAIKES FARM to HELSTON CHURCH.

(1) The total distance is about two miles.

(2) The general direction of the road is North-West.

(3) The road is practically rising all the way, as Helston Church stands on a plateau,

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and the only gradient of consequence appears three-quarters of a mile from Jaikes Farm, where it is $\frac{1}{15}$ for 600 yards.

2. The road is fenced for 500 yards, then unfenced for half a mile, and the rest of the way is fenced.

3. The country is under cultivation and enclosed as far as the top of the hill referred to in Paragraph 1. Beyond that point it is open and movements of troops are unrestricted.

4. Starting at Jaikes Farm, the road runs along the Northern slopes of a spur which projects in a South-Easterly direction from the direction of the Helston Church plateau. To the South, therefore, little can be seen. North of the road is hollow ground, in which "The Red Farm" lies. Beyond that place another spur projects Eastwards from the plateau, thus limiting the view in that direction from the road to about one-third of a mile.

5. The broadest part of the plateau occurs where the road strikes it at right angles; its edge here would form a position suitable for the enemy to take up astride of the road. Three hundred yards away on the North side of the

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road is Manaccan Wood. It runs 500 yards North-East and is about 100 yards deep.

Away to the South edge of the plateau is an elevated portion (R) 20 feet higher than the rest. The most practicable way of turning an enemy out of the position would be:

(1) To seize (R) if unoccupied by him, and enfilade him.

(2) To turn his flank round Manaccan Wood.

6. After passing Manaccan Wood the road runs along the North edge of the plateau, and it is exposed to flank fire from (S), a commanding ridge about a mile to the North. Some cover from this might be got by utilizing for quarter of a mile a cross road which runs West by South to Coverack, and then striking North again regains the Helston Church road under cover from (S).

7. Helston Church is situated in a very narrow part of the plateau. If the village is held, it is threatened from R, or it might be turned from the North by troops getting cover from Manaccan Wood.

NOTE.—(1) The information given in a road report should supplement that given in the sketch accompanying it.

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(2) Other particulars may be given which cannot be obtained from the map—viz., the condition of the road, material for repair, and the width of metalling, the nature of the country, of its cultivation and fences; to what extent movements of troops will be confined to the roads; the nature of the houses, whether defensible or not; the density of the woods. Only such gradients should be mentioned as will affect the rate of marching.

Scouts should also be made to report on the following: Supplies, transport, farms, buildings, ambushes, ferries and fords, woods, villages, etc.

Instruction should be carried out indoors at first, and when they understand the headings and how to make a report, etc., send them out to report on a road or river, position, etc.

NOTE.—All Reports should always, when possible, be accompanied by a rough sketch. See Chapter XI.

To measure roughly the velocity of a stream, select 50 yards of the stream where there are no eddies, and throw in a piece of wood weighted slightly at one end; see how long it takes to travel 50 yards. Reduce this to feet per second and multiply by 7/10. Answer, miles per hour.

Example: The wood travels 150 feet in 50 seconds.

∴ it travels 3 feet in 1 second.

$$\frac{3 \times 7}{10} = 2\frac{1}{10}.$$

Answer: $2\frac{1}{10}$ miles per hour.

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To find contents of stack of hay:

H = height in yards.

B = breadth.

L = length.

Height = height to eaves + half height eaves to ridge.

Hayrick formula:

$$1. \quad \frac{H \times B \times L}{12} = \text{weight in tons.}$$

Strawrick formula:

$$2. \quad \frac{H \times B \times L}{16} = \text{weight in tons.}$$

Example 1: Stack height 4 yards to eaves and 4 yards to ridge; breadth 5 yards; length, 6 yards.

$$\frac{6 \times 5 \times 6}{12} = 15 \text{ tons hay.}$$

Example 2: As above.

$$\frac{6 \times 5 \times 6}{16} = 11\tfrac{1}{4} \text{ tons straw.}$$

To find width of a river you can judge the distance, or if it is a wide river take the width from the map or use your prismatic compass, or

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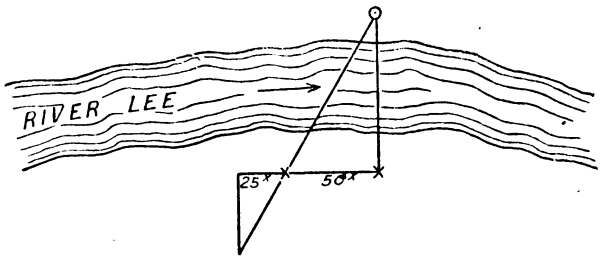
if you have no map and plenty of time you can obtain the width in the following manner:

Place a stick in the ground where you stand and select object on opposite bank. Pace a distance of 50 yards at right angles to stick and object, and place another stick in ground, then go on 25 yards. Then turn at right angles to



your original line and walk away from river, counting the paces until you bring your last planted stick in line with object on other side of river. The distance you have paced since turning will be one half of the distance across the river.

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CHAPTER XVIII

NIGHT WORK *

To my mind this is the most important part of a Scout's training, and, as a rule, the most neglected. On referring to the Syllabus you will find a great deal of time allotted to night work.

Silent Advancing.—Take the men out into an open field and for the first few nights just practise "moving silently," at first with no equipment, later on in full Marching Order, or, at any rate, in same kit as they would wear on Service. Every part of a Scout's equipment must fit him properly; nothing must fit loosely, otherwise it might rattle. When walking or doubling, no noise of any kind should be made by anything the Scout carries on him. When practising, at once investigate and put right any badly-fitting equipment, etc., that causes a noise when the men are moving. Overcoats hamper the use of arms and legs. When moving on hard ground, place the toe on the ground first and raise the foot higher than normally. In

* Reference, "Infantry Training" and "Field Service Regulations."

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long grass the heel should be placed on the ground before the toe. If you are carrying a rifle, be careful that you don't knock it against anything or anybody. Don't cough or sneeze (see p. 120), and don't talk. Always move slowly at night and look out for obstacles.

NOTE.—When Scouting near a river, the noise made by the river will smother any noise made by the Scout, so keep close to it, if possible.

Obstacles.—There are various kinds of obstacles one meets with on Service, the chief one being some form of barbed wire entanglement. These entanglements are difficult to destroy quickly unless men are trained properly. The following procedure should be practised:

Erect a barbed wire entanglement and let one man (your R.E. Officer if possible) exhibit his prowess in using the wire cutters and showing the class exactly what they have to do—viz., lay on his back, attack wires near the uprights, always push wire cutters away from him (in this manner it is easier to cut); *beware of live wires.* This seems easy enough, but requires a lot of practice, and when it has to be accomplished under fire, it is very necessary to carry the business out quickly and well. You will have

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opportunities when Companies are training to, at any rate, lecture the class on entanglements and point out where wire should be attacked. Guncotton in small quantities can be used to demolish entanglements or abattis, and the proper way to accomplish this should be practically demonstrated by the R.E. Officer who instructs your class (see Chapter XXIII.).

Improvement of Hearing at Night.—Constant training is required. The enemy's strength, the direction he is in, and the distance he is off, can be judged by ear. All noises that are likely to occur at night should be made familiar to Scouts, so that they are not mistaken for anything else. Place fatigue men at different distances, some with picks, others with shovels; let them commence using their tools on a pre-arranged signal from you. Make the men judge distance and point out the direction of the sounds they hear; do likewise with fatigue men firing blank. Divide the class up, three Groups on the lookout, whilst the fourth Group tries to get as near as possible to the other three Groups without being heard. Each Group should take it in turn doing this. Next post a Group and try and surround them without being

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heard. Directly a sound is heard, the advancing party must be halted and the Group on the lookout will go forward and see how close the advancing Groups have got. Next post men at different distances, make them cough, sneeze, talk and whisper; the class should point out the direction. When opportunity occurs, let your class get accustomed to the noise made at different distances by a Company or Battalion (*a*) moving silently; (*b*) ordinary step; (*c*) marching at ease on (1) soft ground, (2) hard ground; and a horse trotting and walking on (*a*) hard ground and (*b*) soft ground. Also the sound of muffled guns and numbers of mounted troops on the march. If you are close to the enemy, keep on low ground; if far away, on high ground—it is easier in this manner to hear noises.

Men digging on ordinary ground can be heard 130^{x} away.
Men digging on rocky ground can be heard 1,000^{x} away.
Picks on rocky ground can be heard farther away than shovels.
A man coughing or sneezing on a still night can be heard 450^{x} off.
One Company moving on ordinary ground can be heard 400^{x} away.
One Battalion moving on ordinary ground can be heard 450^{x} away.
Mounted men trotting can be heard 350^{x} off.
Mounted men walking can be heard 200^{x} away.

NOTE.—If the Company or Battalion move "silently" they can both get 300^{x} nearer without being heard.

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Training in the use of the megaphone is important. By placing one of these instruments to the ear noises can be at once detected at long distances.

Improvement of Eyesight at Night. (See p. 155.) On occasions climatic conditions *prevent the ear* from detecting noises—*i.e.*, wind, rain, etc. Everything then depends on good eyesight. Consequently eyesight *must* be improved, and the only way to do this is plenty of night work.

1. Let one of your men advance; as soon as he is out of sight halt him; he then tells you the number of paces he has taken. The same man again advances, and returns from farther away and is stopped directly he becomes visible; he then counts his paces back to you; the two distances should be compared. Try this with a man in dark uniform and note the difference.

2. Place your Scouts lying down in an extended line; let one man approach (*a*) ordinary step; (*b*) silent step, and see who can spot him first. Note the difference between (*a*) and (*b*).

3. Place fatigue men at different distances with cigarettes, cigars, matches, fuzees, lanterns, torches; these men show the various lights at times arranged previously. See who spots them first and get them to judge distance on them.

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4. Let two men approach your class together, one dressed in blue and the other in khaki. Note the difference.

5. Extend your class in a long line, 10 yards between men lying down; take your N.C.O. away and tell the class that your N.C.O. is going to try and get through their line. *Don't send him*, but just see how many men imagine they see him. Each man has orders beforehand to challenge him when they see him coming. Explain to the class how easy it is to imagine things at night, and impress on them the importance of the careful study of this part of their training.

6. Practise all the above on dark nights, ordinary nights, and moonlight nights, and let the men get thoroughly accustomed to the lights on each kind of night.

7. Place two or three men on a skyline and observe how easily they are seen from lower ground.

NOTE.—If you keep to the low ground you can see a man more clearly against the skyline.

Study of Stars and Moon, etc.—At every opportunity point the Pole Star out to your men and continually ask them the direction they are

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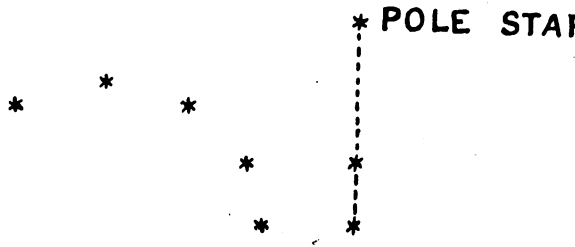
going in. Name a few stars, and when opportunities occur point them out—*i.e.*, Vega, Orion, The Pleiades, Sirius, Antares, etc.

Finding your way at night by the stars is laid down at length in the "Star Pocket Book," by R. Weatherhead, and if you have time to study this matter more fully, do so by all means, as it is interesting and important.



Train your men to find their way by the direction of the wind and also by compass (see p. 76).

Woods.—Getting through woods at night is difficult, but it is often required of a Scout to reconnoitre a wood, so practice in peace-time would be useful. Learn to find your way out of a wood by the same way as you entered it by blazing trees.

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When Nearing Enemy's Position.—Two Scouts can work together; one goes on in front, and attached to him by string is the second man. If necessary, the second man can work up to the first man, keeping himself in touch by string to No. 3, and so on. If very close to the enemy's position, one man can go on and communication can be kept up between him and you by some kind of pre-arranged signals.

Night Attacks.—One of the duties of the Scout is to reconnoitre by day the position to be attacked by night. Note all landmarks; look at them from both sides if possible, and in all lights—*i.e.*: You have reconnoitred a position by day. On the line of advance there is a round-shaped hill; see what it looks like on the farther side, and when the light fades at night watch t carefully and note how different the hill looks.

Scouts have to report on any difficulties that the advance may meet with, and also suggest measures for overcoming them and the best formations to advance in.

Let a skeleton enemy take up a position on strange ground in difficult country; practise a careful reconnaissance of the position during

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daytime, and march on it by night and make your Scouts move slowly and cautiously, send back constant information with reference to obstacles, changes of formations, etc., to the Scout Officer who acts as O.C. the imaginary attacking force. Remember that the enemy is watching all roads and approaches at night, so the Scout must be trained to approach positions by night by going across country. Skylines must be avoided by night. The enemy usually watches them. .

Demolitions at Night. (See Chapter XXIII.)

Leading Columns at Night.—The most favourable conditions for a night march are a clear starlight night with no moon. The Guide first ascertains, as already explained in Chapter XIV., the magnetic bearing on which he intends to march during the night. He next selects a star which has the required bearing. The most convenient stars to select for marching on are those which happen at the time to have an altitude of from 15° to 30°; stars below 15° may become lost in haze, whilst for those above 30° the head has to be inconveniently raised. At these altitudes a star rarely moves more than 5° to a flank in 20 minutes. Hence, if at the end of 15 minutes

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the observer halts and takes a fresh bearing, he can count on keeping direction correctly. Although it is of assistance to an observer to know the stars, it is not *necessary* that he should do so. The great point is to be sure that the compass bearing is correctly taken and prolonged, and that the star selected is adhered to until a change is required.

Battalion Scouts should always be in training for this. Regulations require that one Officer guides the column by compass and one Officer paces the distance. A very useful plan is to train six or eight men as follows (this refers to a very dark night; on light nights select an object in the distance to march on, or a star, but check your advance with compass every few minutes):

Fall in in single file, facing you (as the Officer guiding the column) about two yards apart. No. 1, the nearest man, is placed with his back to the line of advance; the remaining men, 2, 3, 4, 5, and 6, cover off; each man holds a stick* 2 feet long with a luminous plate about 8 inches square fixed at the top. The handle

* Luminous sticks can be made by the Pioneer Sergeant at a very small cost; luminous paint is very cheap.

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Direction of march (bearing 270°)
Index glass on revolving ring set to 270°
Directing band on revolving glass
270
180
360
Sight Vane
Luminous patch
Needle pointing to 270° on outer arc; but really pointing North.
Prism not in use

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end of this stick is held in the right hand in line with the chin and pointing directly upwards between the eyes, so that the luminous plate shows clear over the head. The plate should be entirely luminous on both sides. When you are ready to move off, and the men have covered off exactly in the line of advance, you simply touch No. 1, who immediately doubles back and covers off behind No. 6. You then touch No. 2, who covers off behind No. 1, and so on. In this manner you can cover ground fairly quickly. All you have to do is to stop every few minutes and make certain the men are covered off correctly in the correct line of advance. If the line is not correct, to remedy it you move the second man from you a few inches one way or the other, the remainder cover off. The men must be trained carefully by day. No talking is permitted. Movements must be carried out rapidly and silently, and, if possible, felt shoes should be used, and no equipment of any kind should be worn.

The prismatic compass is so constructed that upon the black direction mark being turned to point to the required "bearing" as shown on the external ring, and the arrow-head being made to correspond with the black direction

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mark, *the line between the luminous patches in the lid indicates the line of advance* (see diagram, p. 127).

Sense of Smell.—Train your men to improve their sense of smell. Practise by sending men forward towards a fire burning, food cooking, a man smoking, etc., and tell them to halt when they have noticed the smell.

Use of Dogs at Night.—(See Chapter XXXII.)

Signs or Passwords at Night.—Scouts should be able to recognize one another on dark nights by some pre-arranged sign. They should have some way of distinguishing each other, and this should be practised. A white handkerchief may be worn round the ankle, or a white patch on the back, or on meeting one another two taps on the shoulder, etc., may be the means of recognition.

NOTE.—Scouts halting for the night should be trained to change their position *after* dark, and should always be clear of their camp *before* daybreak. Halts for the night should be made in isolated woods or farms, etc., where the enemy is unlikely to visit.

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CHAPTER XIX

PROTECTION, FORMATIONS AND HABITS OF THE ENEMY*

It is necessary for the Scout to know and be thoroughly acquainted with all our own formations and those of the enemy. A Force seldom moves without some form of protective service in front, rear, and flank. We call these troops Advanced, Rear, and Flank Guards respectively. Other nations call them by other names, but they are all there for the same purpose. When a Force halts, Outposts are put out. A Scout must thoroughly understand our system of protection. When he has learnt this, then let him study that of the enemy. It must be impressed on him how important it is for him to know the formations and principles of security of the enemy. Before you send a Scout forward on Service give him all the information you have got with reference to the formations, habits, etc., of the enemy.

The Russians, for instance, carried out their reconnaissance very differently to the Japanese.

* Reference, "Field Service Regulations."

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Different nations have different ideas, but the Scout must remember that the first person he meets on Service is the enemy's Scout or his protective line of skirmishers, and it is as well to know their peculiarities.

At times it is most difficult to tell whether those you see through your glasses are the enemy or your own troops. If you know the formations they move in, it should be easy to make them out.

In the South African War there were instances of our own troops firing on each other by mistake. A well-trained Scout might have avoided this. The Boers, of course, at times used our uniform to deceive us and gain ground, and thereby perhaps gain most important information.

At night a Scout's work is most difficult. If he is to work well, he must know what formations the enemy use to protect themselves, and he must know what to expect in the shape of opposition to his movements.

A Scout must be conversant with all the habits of the enemy—time they rise, time they retire, colour of uniforms, buttons, badges, caps, and any distinguishing marks; whether

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they carry out much night-work, words of command they give, number of men to a tent, forms of bivouac, bugle calls, if any, and so on.

All these particulars, and many more perhaps, must be found out by the Scout directly he can after war is declared, or before if possible. In peace-time it is as well, perhaps, to study the formations, etc., of the nations you *are most likely* to meet in battle.

CHAPTER XX

DRILL, INSPECTIONS, RUNNING, ETC.

*Drill.**—There is not much to be said under this heading, but what there is, is of the greatest importance.

Scouts *must* be smart and well turned out; discipline *must* be strict. Half an hour occasionally is given up to drill. Your Scout N.C.O., if he is the pick of the Battalion, will very soon make your class the smartest and best turned-out men in the Battalion. They should be taught to handle their arms and move about in just such a manner as Guardsmen.

Practise the following:

* Reference, "Infantry Training."

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1. Rifle exercises, marching, dressing, etc.; ten minutes daily for a month should improve your class considerably.

2. Saluting Drill. Very little of this may be necessary.

*Physical Training.**—Physical Training is suggested as a subject beneficial to the Scout, and should be practised daily during the first month, and after that once or twice a week during the months laid down in the syllabus.

Both the Scout Officer and N.C.O.—or, at any rate, one of them—should be in possession of a physical training certificate. Faults should be pointed out, and both the Scout Officer and N.C.O. should take part in the exercises. Before attempting a fresh exercise, the instructor should go through all the movements himself in full view of the class.

Running.—Scouts *must* always be fit and ready to go on Active Service at any moment. Running should be carried out regularly, the distances covered gradually increasing as the men get more hardened.

Commence the Training in fatigue dress, and gradually work up to Marching Order; within

* Reference, "Manual of Physical Training."

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six months your class should all be able to cover long distances over hilly country in Marching Order.

The Scout Officer should set the pace himself and lead the class, with the Scout N.C.O. following up in rear.

NOTE.—When all the class are practising together, insist on proper march discipline ; make the men cover off properly and keep in step. Whatever you are doing, or wherever you go, do not let the men get slack.

The following table is suggested as a successful training in running :

First month : ½ mile, gradually increasing to 1 mile, in fatigue dress ; level country.
Second month : 1 mile, gradually increasing to 3 miles, in fatigue dress ; level country.
Third month : 1 mile, gradually increasing to 3 miles, in fatigue dress ; hilly country.
Fourth month : 2 miles, gradually increasing to 4 miles, in drill order ; across level country.
Fifth month : 2 miles, gradually increasing to 4 miles, in drill order ; across hilly country.
Sixth month : 2 miles, gradually increasing to 4 miles, in marching order, less pack ; on fairly level country.

Obstacles.—Prepare obstacles—ditches, water jumps, hedges, walls, etc.—and take your men over them, and teach them to be quick on their feet. A run across country every now and again is good practice, but select a good obstacle course.

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Teach them to escalade walls, etc.; to stand on one another's shoulders for the purpose of using their Field Glasses; and make them fit to climb over or jump anything that may come in their way on Service.

Inspections.—On one parade a day inspect the men's clothing, equipment, and rifles. It is important, especially at first, to be most particular in the inspection of your Scouts; see that their clothing fits properly, and is clean, that their hair is cut, and that they are smartly turned out.

Fitting of Socks, Boots, etc. Care of Feet (see next page).—Constant inspections of feet, and great care over the fitting of socks and boots, must be exercised. Scouts have to be at all times ready to cover long distances on foot, so that the importance of the proper care of feet cannot be over-estimated.

Inspection of Barrack Rooms and Kits.—Barrack Rooms should be inspected daily. Neatness, cleanliness, and tidiness should be insisted upon. Kit inspection should be held when opportunity occurs (at least twice in the first month).

The reader will ask himself what the above has to do with Scouting. It does this: The men do not get slack, it makes them take a pride in

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themselves, and they become in time, without a doubt, the best turned-out party of men in the Regiment.

NOTE.—Close order drill creates discipline and instant obedience to orders.

CHAPTER XXI

FIRST AID*

IN training Scouts in this work the simplest and best plan is to ask the Medical Officer at the Station to lecture the Scouts twice a week as laid down in the Syllabus. No difficulty is usually found in obtaining this help.

At the end of the course the Medical Officer holds an examination and will give certificates to those who pass. The men take a great interest in this subject. The whole class usually qualify after twelve or sixteen lectures.

The Scout Officer, of course, is always present at all of these lectures.

Written below are a few hints which may be of use to the Scout:

Feet.—Special stress must be laid on the subject of the care of feet. A Regiment, even if

* Reference, "Field Service Pocket Book."

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composed of marksmen and highly-trained soldiers, is useless in the field if their feet have not been tended properly. Scouts' feet *must* be inspected regularly, always after a march and invariably once a week all the year round. The Battalion Chiropodist should be present on these occasions. Careful fitting of socks is essential. See that there are no creases in them when you put them on, and that they are pulled up properly. Remember socks shrink in the wash; they get holes in them; they may be too big or too small: any of these points may cause sore feet. And, lastly, the careful fitting of boots. If impossible to keep boots dry, grease them as soon after getting wet as possible. Wet boots cause sore feet. A change of boots relieves sore feet. If feet and socks are inspected regularly, and the fitting of boots carefully supervised by the Scout Officer, no trouble will arise afterwards.

Sore Feet.—1. Put feet in tepid water with salt or alum in it.

2. Soap socks, and, if possible, sprinkle boric acid powder over feet.

3. Prick blisters with needle and wrap carefully in cotton wool to prevent rubbing. Keep clean.

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4. Ingrowing toe-nails must be cut out by Chiropodist, and a **V** cut in the centre of each ingrowing toe-nail.

Fractures.—Broken limbs require splints made of any unyielding substance (rifle, bayonet, wood, etc.). They can be padded, if possible, and bound to the limb with bandages, tapes, etc. The limb must be set first. Get the broken parts as straight as possible and then apply splint, and take man to nearest house or hospital where he can be attended to.

Sprains.—If much swelling, use hot-water applications, otherwise cold water will do. Thorough rest required.

Sunstroke.—Carry patient to cool place. Loosen clothing; allow plenty of fresh air; raise head; throw cold water over his head and shoulders. No stimulants. Apply ice to head. Send for Medical aid.

Fainting.—Place patient on his back; head low; loosen clothing; allow plenty of fresh air. Apply smelling salts to nose. To prevent fainting sit patient down and press head between knees.

NOTE.—Normal Pulse	...	72 per minute.
Normal respiration	...	15 to 18 per minute.
Normal temperature	...	98·4° F.

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Frost Bite.—Rub affected part with snow or cold water. Patient must not be taken into a warm room, neither must heat be applied in any form until the part has been thoroughly thawed.

Diarrhœa.—Must be checked at once. In tropical climates it very often brings on dysentery. Ten drops of Chlorodyne to be taken at first sign. Milk diet and rest. Always be careful that the water you drink has been *properly* boiled.

Loss of Consciousness.—Lay patient on his back. Send for Medical aid. If patient's face is pale, keep his head low; if flushed, keep head high; loosen clothing; allow plenty of fresh air; await arrival of doctor.

Snake Bite.—Waste no time: At once tie as tightly as possible a strap, handkerchief, puttee, or anything you have at hand, above the bite—viz., between it and the heart. Give the patient unlimited quantities of any stimulants. Do not on any account allow patient to go to sleep. If Medical aid is not at hand, and if there is no doubt about the bite being that of a poisonous snake, make a cut half an inch deep round the bite with clean knife and squeeze out as much

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blood as possible around the wound; rub in Crystals or Solution of Potash. To be of any use this must be done immediately the bite is received. If breathing is bad, use artificial respiration as for "Drowning" (see p. 143). Medical assistance should be obtained without delay; minutes are of the utmost importance. If the snake has been killed it should be kept until the species is identified.

Dog Bite, Jackal Bite, Wolf Bite, Monkey Bite. —1. Bites from either of above animals may cause hydrophobia. If a rabid animal licks a scratch, or any part where the skin is broken, there is danger of the disease being transmitted, and the case should be dealt with exactly as a bite. Bites on the bare skin are more dangerous than those in which the dog's teeth have first passed through clothing, and bites about the face and head are the most dangerous of all. As M. Pasteur's treatment requires some days before it takes effect, the remedy has to race the disease to prevent it getting to the brain first and, therefore, every hour lost in beginning the treatment handicaps the chance of its ultimate success, and accordingly every case should be at once reported to the Medical authorities.

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2. Every case of dog-bite should therefore receive *immediate* attention, and that whether there is reason to suspect that the dog is mad or not, as hydrophobia has sometimes followed bites in cases where the dog has shown no apparent sign of madness.

3. In all cases of dog-bite the wounds should be cleansed with water, as hot as can possibly be borne; any bleeding should be encouraged, and the wounds cauterized *without delay*. This is best done by a doctor; but where Medical aid is not at hand, a drop of pure Carbolic or Nitric Acid, or Lunar Caustic, may be used; or, though not so good, Ammonia, or the repeated application of *very* hot water, may be tried.

4. If a man is out shooting, a very little black powder may be flashed on the wound.

5. As full information as possible should be furnished to the Medical Officer with regard to the dog's habits and condition. Important points to note are—naturally vicious or otherwise, change in habits, change in bark, whether it had bitten other persons or other dogs, what became of the dog afterwards, if a strange animal. In cases where the animal has been destroyed, the body should be taken to hospital, as it is of the

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utmost importance to have the point decided in a suspicious case as to whether the dog was suffering from rabies or not.

A short time ago, in India, a soldier was bitten by a monkey, the monkey previously having been bitten by a mad dog. The man died. All the men that had been in contact with the monkey went through M. Pasteur's treatment.

Wounds.—Stop bleeding; apply Field Dressing —instructions for its application are printed outside and inside of every packet of dressing (carried by all ranks on Service). Do not touch wound with fingers, or the surface of the dressing which is to be applied to the wound. If patient is weak from loss of blood, give a stimulant if you have got it.

If bleeding is severe, or an artery has been cut, blood of bright red colour will spurt out from the wound in corresponding jets with beats of the heart. Act immediately as follows:

Place pad over wound and press in with fingers to stop bleeding, or with one hand pressing hard on wound, with the other find the main artery between the wound and heart and press with fingers. Pressure should be maintained until Medical assistance arrives; or, if

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possible, get a handkerchief, a smooth flat stone, and a stick, wrap the stone in the handkerchief, tie a knot over it, and place it over the wound, then tie round limb securely, insert stick in the bandage, and twist it until the stone is forced into the wound sufficiently to stay the bleeding only. The stick must then be secured so that the bandage does not untwist.

Mosquito.—Where these pests abound, *always* use mosquito nets. Never camp near wet ground. Paraffin placed in puddles or pools kills mosquitoes. Clear ground as much as possible around camp. Malaria is caused by the bite of a mosquito which has already bitten a malarial patient. Take 5 grains of Quinine a day in a Malarial District. If attacked get away to a healthy place as soon as possible.

Drowning (Professor Schäfer's Method).—On removal from water place patient face downwards, arms drawn forward, face turned to side so that mouth and nostrils are not obstructed.

Put yourself astride, or on the side of the patient's body, in a kneeling position facing his head. Place your hands flat on the small of his back, with the thumbs nearly touching and fingers spread out over the lower ribs, lean

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forward with the arms straight, and steadily allow the weight of your body to fall on the wrists and so produce a firm downward pressure, which must not be violent. This should occupy the time necessary to count slowly, one—two—three. By this means the air (and water, if there is any) is driven out of the patient's lungs. Then, without lifting the hands from the patient's body, swing backward rapidly, releasing the pressure, when the air will enter the lungs. This part of the operation should occupy the time necessary to count slowly, one—two. Repeat this forward and backward movement (pressure and relaxation of pressure) once in every four or five seconds until patient breathes correctly.

When artificial respiration is being carried out, others may busy themselves with applying hot flannels to limbs and body, hot bottles to the feet, and promote circulation by friction.

No clothing must be removed, or restoratives given by the mouth, until natural breathing has commenced.

When this takes place, allow patient to lie on right side, apply friction over the body by using flannels, etc., rubbing legs, arms, and body, all towards the heart, and continue after the patient has been wrapped in blankets and dry clothing.

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As soon as possible after complete recovery of respiration remove patient to nearest shelter; on restoration, a teaspoonful of warm water may be given, and, if power of swallowing has returned, small quantities of wine, warm brandy and water, beef-tea, or coffee. Encourage patient to sleep, but watch carefully for some time, and allow free circulation of air round patient.

NOTE.—Artificial respiration must also be resorted to in cases of suffocation in mining accidents, lightning stroke, and severe electric shock. You will be instructed in the various methods of applying bandages, etc., by the Medical Officer who lectures your class.

The above notes are useful for reference in cases of emergency.

How to carry a Wounded Man.—If the man is unconscious, place him on his face with his arms to his side. Stand at his head, facing him; raise him on to his knees by placing your hands under his armpits. Then, getting up close to him, place your head on his right side with his right arm round your neck; your right arm and hand should then pass through his fork and seize his right hand. Get him well on to your back and rise. If the man is conscious, this will be found far easier, as he will then be able to help you slightly. All Scouts should be experts at this.

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First Aid is easily learnt. In a few lessons the Scout masters it, and in a Regiment it is always useful to have some trained men. The Medical Officer will instruct the class how to make the various bandages required for broken limbs, etc., and will go into the subject much more exhaustively than has been done here.

NOTE.—When an accident or case of sickness occurs always obtain Medical aid if possible.

CHAPTER XXII

CIPHER*

THERE are several well-known ciphers in use, but for the purposes of the Scout it is sufficient if he knows the "Sliding Alphabet Cipher." Although this cipher is not the best for long messages, it is particularly useful and reliable for those who wish to send short, important messages in cipher.

Each person who is corresponding in this manner must be in possession of a Fixed and a Sliding Alphabet.

Write the Fixed alphabet down on a strip of paper (p. 148), each letter occupying one of

* Reference, "Field Service Pocket Book."

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the twenty-six divisions (each division being of exactly equal length). Then in the same manner write the alphabet down twice over on another long strip twice the length of the Fixed Alphabet paper — viz., having fifty-two divisions, each division equal to a division in the Fixed Alphabet, so that whatever the position of the Sliding Alphabet, there will always be some letter of this alphabet under each letter of the Fixed Alphabet.

An easy key-word is chosen, and the letters of the text written out in as many columns as there are letters in the key-word. For example, DUBLIN is chosen as the key-word, the message to be sent reading: "Enemy advancing on right flank." The letters would be written in six columns—viz.:

E N E M Y A
D V A N C I
N G O N R I
G H T F L A
N K.

Then move the Sliding Alphabet until the first letter of the key-word, "D," comes under "A" of the Fixed Alphabet, and the first column of letters is enciphered, each letter being looked up

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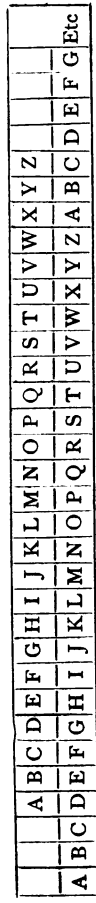

in the Sliding Alphabet and represented in cipher by the letter standing immediately above it in the Fixed Alphabet. The second column of letters is then similarly enciphered and the same procedure followed with the remaining columns. Each column of letters is thus enciphered by a different alphabet, and the number of alphabets used corresponds to the number of different letters in the keyword. The above column would be represented in cipher thus:

B T D B Q N
A B Z C U V
K M N C J V
D N S U D N
K Q.

The cryptogram, arranged in groups of five letters, would read as follows:

B T D B Q. N A B Z C.
U V K M N. C J V D N.
S U D N K. Q.

The above cipher may be varied if considered necessary.

A sample of the Sliding Alphabet Cipher is here given.

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NOTES.

1. The key-word must be memorized, never written.
2. The key-word must be simple, easy to remember, and easy to spell.
3. Never send a cipher message containing paragraphs partly in clear and partly in cipher.
4. Always check your message before despatch.
5. Destroy all paper you use when enciphering or deciphering a message.
6. Never refer to a cipher message in ordinary correspondence.
7. All cipher messages should be arranged in groups of five letters.

CHAPTER XXIII

DEMOLITIONS *

Demolitions.—Scouts should be able to destroy bridges and railway lines, cut communications, remove parts of locomotives and guns so as to make them temporarily useless, and destroy Q.F. ammunition, and thoroughly understand the use of, and how to handle, guncotton and other explosives.

Commanding Officers have often been at a loss for a reliable man who could materially help them by riding, perhaps, a long distance and

* Reference, "Manual of Field Engineering."

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blowing up a bridge or culvert, and thereby perhaps cutting off the enemy's retreat. If Commanding Officers have reliable men—men who can find their way about the country without any fear of being lost, they will only be too delighted to use these men, and can do so with confidence. Night-work has been treated in this book in a very serious manner, because the writer realizes that all sorts of important work will be carried out at night in the near future, which it would be impossible to accomplish during the day. Demolitions are not one of the least important on the list.

If it is possible to obtain the services of an Engineer Officer in the station, by all means get him to lecture your Scouts for a short time twice a week. After a few lectures indoors get your class out into the country and try to arrange some practical demolitions. It is important to have practical experience in this subject.

Guncotton and cordite are available on Service.

Guncotton Charges.—Wet guncotton is detonated by means of a dry primer in close contact with it. Guncotton in slabs is carried in copper-

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tinned cases. There is one perforation for the primer.

The Primer, conical in form, has one perforation for the detonator, and is exploded by means of same. It must be kept dry.

The detonator is a small brass, red-painted tube about 3 inches long, like a pencil, with a tapering end containing fulminate of mercury, which detonates. The upper end of the tube is empty for the insertion of the fuse, being closed by a paper cap. Detonators should not be carried loose, and on opening a new packet always test one. If the hole in the primer is too small for the detonator the wooden instrument supplied with each box of detonators must be used to enlarge it. Do not use anything else for this. If the hole is too large, cover the detonator with paper or grass.

Fuse, black in colour	...	... Safety.
Fuse, orange coloured	...	... Instantaneous.

Cut the fuse to the required length.

Remember a safety fuse burns at the rate of a little over a yard a minute. Always test fuse before using it. Cut the end to be ignited on a slant; the other end is cut straight across. The latter end is then inserted very gently into

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the thicker end of the detonator, from which the paper cap has been torn. This thicker end of the detonator is then bent slightly to make it grip on the fuse and so prevent it being withdrawn. Be careful not to touch the end of the detonator containing the fulminate of mercury. Then gently insert the small end of the detonator into the primer, so as to fill the entire length of the space in the primer. If the hole is too large, wrap a piece of paper round the detonator. All charges should be tamped, or, at any rate, covered with grass or some other material.

Fire a charge from a cigar or pipe. A fusee match is best. Directly the fuse is alight, run as far away as possible—at least 200 yards.

Amount of guncotton required to blow up a—

	Wall.	Pier.	Arch.	Iron Girder.
Formula:	$\frac{1}{2}BT^2$	$\frac{2}{3}BT^2$	$\frac{3}{4}BT^2$	$\frac{3}{2}Bt^2$.

B. = Length in feet to be demolished.
T. = Thickness in feet to be demolished.
t. = Thickness in inches to be demolished (in the case of steel or iron plate only).

NOTE.—Charge is in pounds ; if charge is tamped, amount can be halved. In presence of enemy increase charge 50 per cent. For emergency purposes, BT^2 is effective with all classes of masonry which includes concrete, stone, or brick-work ; $2Bt^2$ for all steel work. The charge must be in close

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contact with the object to be demolished, and each slab must be in contact with those next to it. The charge must extend across the whole length of the object to be cut. One detonator is sufficient for a continuous guncotton charge.

Example: Masonry Bridge to be demolished, 20 feet wide, thickness of arch, 2 feet.

Formula used: $\frac{3}{4}BT^2$. $\frac{3}{4} \times \frac{20}{1} \times \frac{2}{1} \times \frac{2}{1} = 60$ lbs.

If tamped	... 30 pounds.
In presence of enemy	... 120 ,,

As this subject is dealt with so fully in the "Manual of Field Engineering," it is only necessary to give here a few notes for demolitions without explosives.

Locomotives.—Take off the injector, the connecting-rods from cross-heads to cranks, or the piston or safety-valve.

Rolling Stock.—Remove springs and let body of carriage fall on wheels and axles.

Guns.—Hammer the block, and screw threads.

Telegraphs.—Cut down poles and destroy insulators, cut wires or establish faults.

Q.F. Ammunition.—Dent cases by hitting them with a hammer or axe.

Railways.—Tear up rails, especially at curves or points. Break off fish plates with hammer.

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Destroy everything in the way of signals, water tanks, pipes, etc., that is within your sphere of operations.

NOTE.—For felling a tree use a felling-axe or hand-axe, and give your Scouts some practical work. The tree should be strained in the required direction of fall by a rope. It is then cut into as far as the centre of that side, and finished off on the opposite side by a cut about four inches higher up.

CHAPTER XXIV

USE OF FIELD-GLASSES, TELESCOPE, AND RANGE-FINDER

Field-Glasses.—Every Scout must be in possession of a pair of Field-Glasses, and must be thoroughly trained in the use of them. The Scouts should carry them out daily and be made to use them on all necessary occasions when they would be required on Service.

On arriving at a crest line, or at a point where fresh country comes into view, the Scout must be instructed how to make use of them to the best advantage, without being seen himself. Above all things remember that when you are looking for the enemy, their Scouts are probably on the same lay, so it behoves you to be careful.

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First of all thoroughly search all country within view close at hand, and then gradually work out in wide sweeps until you reach the farthest crest line; when satisfied that the country in front is free of the enemy, then only can you advance with any degree of safety. With practice a few minutes will tell you if there is anything in sight. If a suspicious object is noticed, at once look at it and make out what it is; if a man is seen, search all ground in the vicinity for others. Get in the habit of lying in a comfortable position and well hidden from the enemy (see also Chapter XVI.).

Field-Glasses at night are useful. With the moon behind one on a moonlight night a man can be seen at a distance of 330 yards with the naked eye; with glasses he can be distinguished at 500 yards. On an ordinary dark night (no moon, fine weather, and clear sky) a man can be seen at 35 yards with the naked eye, but with glasses you can spot him at twice that distance.

Tests should be carried out on bright and dark nights with different coloured uniforms, and it will be found on the average that you will be able to see twice as far with glasses as you can with the naked eye.

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Telescopes.—A telescope requires a deal more practice to use than a pair of Field-Glasses, and it is necessary for all Scouts to be carefully trained in using it, although they may not all be lucky enough to possess a good one. Always find a comfortable position; either rest the back against a tree, or use your knees for a support for the left arm, or obtain a stick and use that as a support for the left hand whilst sitting up or kneeling. There are other ways, perhaps more simple, but without practice it is impossible to pick up an object quickly. Try for yourself.

There are many types of reliable telescopes on the market, so it is useless recommending any particular one.

*Barr and Stroud Range-Finder.**—From every point of view this Range-Finder is most suitable for use in warfare. For the Scout it is invaluable; he is able to take ranges without exposing himself to any great extent, and all Scouts should be able to use this instrument. A few lessons are sufficient, and a certain amount of practice is required to become an expert. For obvious

* Reference, "Handbook of the Barr and Stroud Range-Finder."

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reasons it is a far better instrument than the Mekometer. The only drawback to the instrument is its cost. These instruments have been issued to various Infantry Regiments, and from what can be gathered, give entire satisfaction. A few hints on these Range-Finders are given below.

1. Always focus the eye-piece carefully.
2. Use the stand, or some support for the instrument, if possible.
3. Always make coincidences in the centre of the field of view, and with the dividing line at right angles to the object observed.
4. Check the coincidence by using the astigmatizer.
5. Always take three observations, and give the mean range; if one of these observations differs much from the other two, discard it and take another observation.
6. Correct any halving error as soon as possible.
7. It is often a help to close the left eye for a moment when making coincidences.
8. Use the dermaytine ray shades when the light is bright, when looking towards the sun, or when it is raining.
9. Never leave the adjusting heads exposed.
10. Keep under cover as much as possible.
11. Handle the instrument with care.

NOTE.—When using astigmatizers, refocus eye-piece. The astigmatizers are brought into use by pushing forward the small lever attached to the left handle, and are primarily intended for use when taking the ranges of lights or objects illuminated by a searchlight or glistening in the sun, and are also useful for observing and checking coincidences obtained on ill-defined objects, such as stones or bushes.

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CHAPTER XXV

EXAMINATION PAPERS

ONCE every two months during the training of your class an examination should be held.

This examination should take place in the library, or some large room, and should be carried out under the strictest surveillance. Men should sit well apart, and nobody be allowed to leave the room until his papers are handed in, unless accompanied by the Scout N.C.O.

Some sample examination papers are given here, which have already been used in examination of Scouts. Of course, the questions may be varied in any manner the Scout Officer wishes, as long as the examination is held.

Those men who make under 50 per cent. should be set to work out another paper.

The marks of the whole class should be posted up in a conspicuous place in the barrack room.

After the papers have been corrected and marks allotted, a lecture on the papers should be given. All answers should be worked out, and all mistakes made brought to the notice of the class.

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EXAMINATION NO. 1.

1. Show by a drawing how you would locate the Pole Star.

2. What is meant by a "Concave Slope"?

3. Give the conventional signs for the following:

(1) Bridge over river.
(2) Guns in action.
(3) Church with tower.
(4) Double railway line.

4. How do you ascertain contents of a stack of straw?

5. Construct a scale of 6 inches to 1 mile.

6. If sent to report on a road, under what headings would you report?

7. How do you set a map with a compass?

8. What is a Contour?

9. In moving about the country with the enemy close at hand, what are the chief points a Scout must be careful about as regards himself?

10. What thickness of ice will bear men in small detachments?

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Examination No. 2.

1. Show by diagram the points of the compass.

2. State all the headings that you might have to report on in making out a report on a river.

3. Morse Code:

   (*a*) When Z is signalled, what should the receiver do?

   (*b*) What signal must be given before signalling a numeral?

   (*c*) Give the Morse Code for the following letters: D, U, L, P, V.

4. Semaphore:

   (*a*) If a word is missed or mis-read by you, what do you do?

   (*b*) What signal do you send after a series of figures, and before commencing letters?

5. The height of a stack of hay is 4 yards from the ground to eaves and 2 yards from eaves to ridge; the breadth is 6 yards, and length yards. Estimate contents.

6. You are handed a foreign map with no scale on it. You ascertain the distance from A

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to B on the map to be $1\frac{1}{2}$ inches and on the ground $1\frac{1}{2}$ miles.

(*a*) What is the Representative Fraction ?

(*b*) Construct a scale to show quarters of a mile.

7. Define the following :

(*a*) Column.

(*b*) Escarpment.

(*c*) Water Course.

8. The vertical interval being 20 feet and the slope of a hill 5 degrees, work out the horizontal equivalent.

9. Which is the best and quickest way of felling a tree, and what tool would you use if given a choice ?

10. You find, on throwing a piece of wood into midstream, that it takes 15 seconds to travel 30 feet. What is the mean velocity of the stream at miles per hour ?

11. What atmospheric conditions tend to make tracks appear older than they really are ?

12. The true bearing from A to B is 200 degrees :

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(*a*) What is the magnetic bearing (the magnetic variation being 16 degrees WEST).

(*b*) Describe how you would set your prismatic compass for the purpose of a night march on the above bearing.

EXAMINATION NO. 3.

1. Describe the best way of finding approximately the width of a deep river.

2. How would you set a map on a clear night without the use of a compass?

3. Describe the difference between a concave and convex slope.

4. Give the conventional signs for the following:

(1) Windmill.
(2) Infantry in line.
(3) Post Office.
(4) Milestone.
(5) Transport Park.
(6) Railway.
(7) Telegraph line.

5. What is the longest distance at which the following objects can be distinguished by good eyesight—

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(1) Church Tower.
(2) Movements of men's legs and arms.
(3) Colour of facings?

6. What is the difference between Scouting and Skirmishing?

7. In making out a report or message, what particular points have always to be remembered?

8. What point do you first look for on referring to a map you have never seen before?

9. How do you find the North Point by means of a watch and the sun?

10. Describe how you ascertain the velocity of a stream.

11. What do you know about background?

Examination No. 4.

1. What is the best way to handle a telescope?

2. How far off can you see a man dressed in khaki on a moonlight night with the moon behind you?

3. Describe the correct method of looking over a crest of a hill in an enemy's country.

4. If one of your comrades (*a*) fainted, (*b*) broke his leg, describe what action you would take.

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5. Explain what you know about the Barr and Stroud Range-Finder.

6. Make out the following message in Cipher: "Enemy Advancing" (Key word to be given).

7. What is a protractor used for?

8. Describe the various methods of judging distance.

CHAPTER XXVI

SYLLABUS OF TRAINING COMPANY SCOUTS*

In each single Company,† 1 N.C.O. and 6 privates must always be kept in training as Company Scouts; they should be specially chosen for strength and activity; they must be intelligent and reliable men, and not likely to exaggerate. They should have a special training as Company Scouts during the period of Individual training, which takes place in the United Kingdom during the months of November, December, January, and February, annually. At Stations other than

* Reference, "Training and Manœuvre Regulations."

† The Double-Company organization at home will not affect the training of Scouts. In each double Company 2 N.C.O.'s and 12 men will always be kept in training on the above lines. The Single-Company organization still holds good in India.

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the United Kingdom, the division of the year is modified to suit climatic conditions. For instance, in India, the period of Individual training would be the four months just previous to the commencement of Collective training, which is called the second period, and lasts in the United Kingdom from March 1 to October 31. During the four months of Individual training at home, the annual furlough has to be arranged, and it is not difficult to give your Company Scouts at least one month's sound practical training during this period. In addition to training Scouts, the Company Commander has to individually train his whole Company, so it is of the utmost assistance to him if he happens to have a suitable N.C.O. to place in charge of his Scouts, and put them through the elementary work, and if, in addition, the Scout Officer could lend a hand occasionally during this period, it would ensure a uniform method of training Company Scouts throughout the Battalion. By the time Company training commences, the Company Scouts should have received a good insight into their work, and in consequence, towards the latter part of Company training (remember the two Battalion Scouts are with

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their Company during Company training), the Company Commander will find his Scouts of great assistance to him, and later, when on manœuvres, he will find them invaluable. This individual training of Company Scouts is difficult in the United Kingdom, but much simpler in India, where there are less men employed and no recruits. Below is a rough idea of the work that should be carried out during the Individual training of Company Scouts, and continued throughout the first part of Company training with the help of the two Battalion Scouts.

SYLLABUS OF TRAINING COMPANY SCOUTS.

TWO MONTHS.

SUBJECT.	WHERE REFERRED TO.
Drill, Running, etc. ...	Pages 133, 134
Visual Training and Judging Distance	,, 90 *et seq.*
Use of Ground, Selecting Lines of Advance, etc.... ...	,, 98 ,,
Semaphore	,, 70 ,,
Work in Connection with Aeroplanes	,, 171 ,,
Reports and Reconnaissance of Roads, etc.	,, 60 *et seq.*, 106 *et seq.*
Map-Reading	,, 45 ,,
Night Work	,, 117 ,,
First Aid	,, 136 ,,
Power of Observation ...	,, 41 ,, 98 ,,

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Company Scouts should be trained only as "Ground Scouts." They must have a good eye for country, and be given constant practice at selecting lines of advance, reporting obstacles, and pointing out good fire positions, etc., close at hand. This training must include small tactical schemes. In a Company with untrained Scouts it is invariably the case that when a Ground Scout is sent on ahead for some special reason, he does not return for a considerable time, and in all probability he will lose touch, simply because he has not been trained properly to keep in touch with the unit he is scouting for.

Reports from Ground Scouts must be sent back rapidly and frequently, so that the Company Commander can alter his formation or take up a position in time to avert a disaster or perhaps gain a tactical point. If the Battalion Scouts when helping the Company Commander and Scout Corporal in the training of the Company Scouts instruct these men on the lines suggested in this chapter, they will have done a great service.

Company Scouts may be used for directing Baggage Columns, for observing approach of Aeroplanes, for very careful ground reconnais-

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sance in mountainous country, especially when fighting savages; for protection, laying ambuscades at night, and stalking snipers—the last three items should be sparingly resorted to, since it interferes with their proper duties of ground reconnaissance. Scouts to a Column moving through dense bush should precede the Advance Guard and not be more than eighty yards each side of the path; rifles should in this case be ready for immediate use. Night work is one of the most important items to bring out at Individual training, and the elementary work—viz., moving silently, putting on equipment, improvement of eyesight—can be very well carried out during the first period.

During the early part of Company training, whilst the Company is doing Squad, Section, etc., drill, the Company Scouts continue training under their N.C.O., helped by the Battalion Scouts, and the work supervised by the Battalion Scout Officer; in the later stages of Company training they will be found most useful, and will take part in all the tactical schemes. It is very necessary to keep these Scouts up to the mark in drill and general smartness; *don't let them get slack.* In the event of a man going sick

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or being returned to duty, his place should be at once filled by another suitable man. Make each man take a pride in himself, and do his best for his Company and Regiment, etc. The Company Commander must select his best men for this work, and should always bear in mind that the better his Company Scouts are trained, the better work will be done by his Company both on Manœuvres and on Active Service with little chance of the Scouts letting the Company in. Company Scouts are an enormous asset to the Company Commander if well trained as Ground Scouts. When thoroughly trained as a Ground Scout, the man becomes eligible for selection as a Battalion Scout, and he can then work up in his spare time the more advanced work.

At all times at Manœuvres or on Service, when the Company is acting alone, the Company Scouts should be used. When the Company Commander is giving his orders to his Section or Platoon Commanders, his Scout Corporal should always be present. As has before been mentioned, the selection of the Company Scout Corporal is of the greatest importance. A good sound, intelligent, straightforward, keen man, with a bump of locality, is the sort of man one

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requires. In Burma last year such a man was in my Company; his work before entering the Army was that of a gamekeeper. He was very observant, could make a rough sketch, never lost himself in the most difficult country, was popular with his comrades, and carried out his work thoroughly and conscientiously. He was of the greatest assistance to me when the Company was acting alone, and never once failed. Company Commanders should always remember, before moving the Company off, to have their Company Scout Corporals up and give them *clear* instructions; let them do the rest, don't interfere with their commandoes. To have a good Scout Corporal on Service would indeed be a blessing.

The training should be carried out in accordance with contents of chapters referred to: a daily programme should be made out and each chapter carefully read, and no heading in any chapter should be omitted. The work in connection with Aeroplanes should be carefully studied. Night work, owing to the extraordinary reconnaissance work of Aeroplanes by day, should be most thoroughly worked up.

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CHAPTER XXVII

THE SCOUT AEROPLANE

In France during the year 1783 a balloon attained the height of about 10,000 feet, carrying one passenger.

In 1785 two Frenchmen, for the first time, crossed the English Channel in a balloon.

On June 26, 1794, at the Battle of Fleurus, the French gained much information about the movements of the Austrian Army by means of a captive balloon which ascended to a height of about 1,200 feet. The aeronaut was in constant communication by signal with the Staff, and remained several hours at a time in the air. The French Army again in 1870 obtained and transmitted much valuable information by means of balloons. Captive balloons were also used with some success in the South African and Russo-Japanese Wars.

Many attempts were made to fly a heavier than air machine, but it was not until December 17, 1903 (a memorable date in the history of the Aeroplane), that the Wright Brothers, having fitted a motor to their machine, were able to

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make their first power-driven flight, which lasted 59 seconds. Within ten years from that date one was not surprised to hear of a man being able to make a continuous flight of more than twelve hours.

Of late years the Aeroplane has made enormous strides towards perfection, and is used by all Armies at the present time for purposes of reconnaissance and destruction. A great number of Aeroplanes of different types are now in existence, and the number increases daily. Whereas a few years ago only a few Pilots existed, now they can be counted by thousands.

Schools of instruction for Pilots have cropped up all over the world, and it was more or less agreed that in any great European War the preliminary stages of the campaign will be an aerial encounter* between the flying fleets concerned which will determine the command of the air, the victor then being free to reconnoitre the enemy's movements without the possibility of being harassed by hostile Aeroplanes. The Army that is vanquished in the air *must* then fall back

* The present war has not altogether borne out this statement, as the enemy's air fleet has refused in most cases to offer resistance.

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on its trained Scouts to obtain information. The Air Scout goes forth on its duty with a Pilot and a Military Observer. The latter is a highly trained specialist, and cannot be produced in a day—his work is arduous, and the risks he takes in war are great, so it is necessary to have a constant stream of Observers always in training, ready for any emergency.

To form a reserve, it is suggested that a certain number of highly trained Scouts from every Regiment in the Army should go through a course of Military observation from Aeroplanes (see p. 199). Reserve Pilots and men to look after the machines are also required; but that does not come under this heading.

As the particular subject is of such great importance from a Scouting point of view, it is necessary for the Infantry Scout—First- and Second-Class Scouts—to be fully acquainted with the work of the Scout Aeroplane and its Observer, and for this reason Mr. Grahame-White, one of our greatest living air experts, has very kindly written the following up-to-date lines on this subject, which should be invaluable to the Infantry Scout.

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The Description and Work of the Aeroplane Scout.

By the judicious use of his Air Scouts, a Commander-in-Chief can pierce most effectually what has been aptly described as "the fog of war." To do this, and to know what his opponent is planning, is of absolutely vital importance for a Commander in time of action. The modern-type Scouting Aeroplane is either a Biplane or a Monoplane. With the former a speed of approximately sixty miles an hour is obtained, even when the machine is loaded with fuel for a flight of several hours, and has on board an Observer as well as a Pilot. Such a Scouting Biplane is usually driven by a motor developing 100 horse-power. With its crew of two it will fly for long distances without descending.

The Scouting Monoplane has also accommodation for the Pilot and Observer. Its engine-power is usually the same as that of the Biplane. In speed, however, it may excel the Biplane; when fully loaded it can attain a speed of eighty miles an hour. The disadvantage of the Monoplane, as at present constructed, compared with

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the Biplane, is that it is difficult to obtain an unobstructed outlook immediately below upon the land which the Aeroplane is passing over; but a new type, known as "The Parasol," is now being experimented with to overcome this defect.

It is by no means easy to make accurate observations from an Aeroplane in flight; therefore the specialist who is entrusted with the work needs every possible facility. The construction of the Biplane, and the fact that in many machines the Pilot and Observer are placed in front of the main planes, makes this type of machine more adaptable than the Monoplane to the purposes of reconnaissance.

However, the speed of the Monoplane is a factor much in its favour, and therefore we find Monoplanes as well as Biplanes used for Scouting work, although recent development and improvements in Biplanes have resulted in removing this hitherto superior quality of the Monoplane. When the Commander-in-Chief desires special and urgent information as to the latest move of an antagonist who is creeping steadily forward, with the idea of bringing about a decisive action, he at once sends for the Officer in charge of the

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Aeroplane Corps. This Officer, after listening to the Commander's wishes, arranges quickly the Scouting work of his airmen. Each Observer, with maps and note-book in hand, is entrusted with the task of flying over a specified area and noting all that he sees, the result being that a series of reports is brought back in an astonishingly short space of time. When all the Observers' reports are in, the Officer in charge of Aeroplanes prepares a comprehensive general report, and presents this to the Commander. In this manner ground is covered in the course of an hour or so which other Scouts would take days to traverse. The supreme value of an Air Scout's news is that it is fresh—he reports what the enemy was doing a few minutes before.

The following actual report handed in by a French Officer-Observer recently will convey to the reader better than any amount of explanation just how the Observer does his work, and how he jots down in his note-book, as briefly as possible, what he sees as he peers down from his fast-flying craft. The news contained in the report in question is not of any unusual importance, but its general style shows how these aerial Scouts present the tidings they have

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gleaned, and a note should be made of the short time they take, obtaining such a vast amount of information:

6.5 *a.m.*—At Thieuloy, three squadrons of "Chasseurs-à-cheval" hidden behind the southern edge of the village, on the road from Thieuloy to St. Maur.

6.30 *a.m.*—At Feuquières, a brigade of Infantry on the march eastward on the road from Feuquières to Bromtos. Head of main body just leaving Feuquières. Six batteries of Artillery parked south of Feuquières.

6.32 *a.m.*—At point 1,800 metres north of Feuquières, two Companies on outpost: one facing north and the other north-east, outside the Feuquières-Sarcus road. One Company has dug rifle-pits to the west, and the other Company section trenches to the east of the road. A Blériot Monoplane has just landed behind the Company of the west of the road; we followed its flight for three minutes.

6.40 *a.m.*—Agnères. A Company in column of route marching from Agnères towards Mereaucourt, along the St. Martin de Pausis ravine.

To appreciate the full value of such news as this one needs to remember that a number of

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Scouting airmen are usually sent out, and that each of them reports on his area of country in a similar manner to that quoted above. Then, with a map before them, the Headquarters Staff can mark down the exact position of the enemy's force.

The value of the Scout Aeroplane in time of war is not a matter of theory. In 1910, in the French Manœuvres, Aeroplanes were used successfully for reconnoitring purposes, and this success has been repeated in a more convincing way in more recent operations. In Tripoli the Italians used aircraft for reconnoitring in the actual work of war. In Germany the Aeroplane has been tested in Manœuvres, and the German War Department is now striving to overtake France in the matter of equipment and organization. Russia is also busy with the creation of an air fleet, and other countries are buying machines according to their needs and resources. It is hardly necessary to state what wonderful work our Flying Corps has accomplished in the present war. By reconnaissance, direction of artillery fire, and destruction of enemy's aircraft, it has been proved that our Air Service, although in its infancy, is not only

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holding its own, but, owing to the daring of our airmen, is in every way getting the upper hand of our enemies.

England is a long way behind such a go-ahead nation as France, but we are going ahead now, and everything has been done that could be done to make our Flying Corps complete in every way. If the Treasury puts the money down, we need not fear as to the men. There is a growing stream of candidates for admission to the Flying Corps, and our Military airmen are capable of the very finest work.

Trained Infantry Scouts to observe Approach of Aeroplanes.—There should always be in training at least two men per Company, Squadron, etc., whose special and only duty is to watch for the approach of Aeroplanes, and at once report when one comes into sight. If the Aeroplane is flying low, at an altitude, say, of 1,500 to 2,000 feet, it should not be difficult to detect on a clear day. Experience in Manœuvres and in war has taught airmen to fly high; hence, when out on reconnaissance, they preserve a minimum height of 3,000 feet, while from 4,000 to 6,000 feet are heights recommended when atmospheric conditions prove favourable. At such altitudes,

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remembering that the men on the ground cannot anticipate from which direction the Air Scout will approach, it has been found extremely difficult to locate a machine. The airman's contention is that much reconnaissance could be effected in war without the troops that were watched being always aware of the presence of the Air Scout.

Cover from View.—Infantry Scouts must be trained quickly to grasp the situation and point out immediately any cover available on approach of an Aeroplane. Large bodies of troops marching on a wide road should be kept to one side of the road, and in this manner they may not attract the Air Scout's attention. On a narrow road troops may escape observation by at once taking cover close under the hedges on either side of the road and remaining perfectly still. Woods, clumps of trees, hedgerows, villages, etc., all offer complete shelter from observation if taken advantage of when the aircraft is still at a distance.

When moving over country in extended order or in small columns troops should take cover under the nearest trees, hedgerows, gorse, or bushes, and lie perfectly still close under the

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edge of such vegetation until the Aeroplane has passed over.

Formed bodies of Infantry must be got under trees or into woods if they are to escape observation, for in the open they are certain to be seen. Air Scouts usually locate the movements of all main bodies.

The accurate observation of bodies of troops depends largely on the circumstances.

(*a*) The background—viz., the colour of the ground on which the troops may be at the moment; and

(*b*) Troops on the move are far more easily seen than when they remain absolutely still; a column of troops moving along and occupying the whole width of a light-coloured road can be easily seen from almost any height, whilst an extended line of Infantry scattered on the grass or amongst small bushes will seldom be detected if they remain still. Nothing is more conspicuous than men's faces, so that soldiers should be trained not to look up at Aeroplanes unless ordered to do so. There are many points under this heading for the Infantry Scout to learn.

What Part of the Aircraft to Fire at.—If troops cannot escape observation, the hostile Aeroplane,

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if flying low, should naturally be fired at. An Aeroplane flies so fast that it offers an elusive target, and he who fires at it from the ground must be content to aim at the machine as a whole and not hope to hit any particular part. In Tripoli, in the Balkans, and in the present war, through flying dangerously low some Pilots had their machines struck with rifle bullets, and in several cases the men themselves have been hit. But an airman at an altitude of from 5,000 to 6,000 feet should have no cause to fear rifle fire. If the airman is compelled to fly low in order to obtain his information he must take the risk. Bodies of machines are now armoured lightly so as to resist rifle fire, and the planes can be riddled with shot without affecting lifting power or stability.

The propellers are, of course, vital points, and when struck and broken the machine is hopelessly crippled and must glide to earth. The engine and fuel tanks are vulnerable, but these parts are, as I said before, slightly armoured, yet they would hardly resist the well-directed fire of a machine-gun.

I consider a percentage of the machines must be hit in war time, but I do not for a moment

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think that casualties from rifle fire, etc., from the ground will affect prejudicially the net result of the Flying Corps work.

Judging Distance of Passing Aeroplanes.—If a marksman knows he is to be stationed in any one spot and has leisure in which to make his observations, he may gauge the height of an Aeroplane should the machine pass across his section of the sky. But in what may be termed the rough and tumble of war a rifleman will allow experience to suggest to him the range and do the best at that. Special Artillery for use against Aeroplanes is now being used, and many ingenious sighting mechanisms have been brought forward.

Air Scouting by Night.—From airships this has already been effected and with success, while experimental flights have also been made with Aeroplanes, but it is reckoned at the moment that airships should be used during the hours of darkness. Their ability to hover over a given spot enabling detailed observations to be made is greatly to their advantage in night work.

Measures that can be taken to protect Infantry from Aeroplanes.—Apart from having trained men

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continually on the look-out for approaching Aeroplanes and moving troops from point to point in as open formation as possible, the best precaution should lie in the presence of fighting Aeroplanes. These would meet the enemy's craft in their own element and seek to repulse them. Protection would also lie in the possession of Artillery for use against Aeroplanes.

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PART III

CHAPTER XXVIII

HINTS ON SCOUTING IN UNCIVILIZED COUNTRIES

Scouts must remember that their work may not always be in civilized countries where there are unmistakable landmarks, such as roads, railways, telegraph lines, villages, church steeples, windmills, towers, etc., any of which may be easily located, and one or more of them may be the means of helping a Scout to retrace his steps to camp without reference to compass, sun, stars, or map.

In an uncivilized country, or in a desert without artificial landmarks, conditions are very different, and one must resort to the wind, sun, compass, or stars, and for this reason reference has already been made to the importance of training Scouts under these headings. In the majority of places in the world there is a pre-

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vailing wind, which can be usually judged by the bend of trees and grass, and in this manner alone it is sometimes quite easy to find one's bearing. It is sometimes rather difficult to ascertain the exact direction of a very light wind without resorting to one of the following methods—standing still, by throwing up powdered dry leaves or dust or flour, or a feather, or by watching smoke.

The Scout should be trained to tell the time of day by the length of his shadow. This is very simple indeed, and should be practised daily until the Scout can tell at once, and without hesitation, what the time of the day is to within a quarter of an hour. Taking sunrise at 6 a.m., train your men as follows:

7 a.m.	Arm at full length, four fingers and thumb, held horizontally above line of horizon, should just reach height of sun.
8 a.m.	Arm at full length, eight fingers and two thumbs, held horizontally above line of horizon, should just reach height of sun.
9 a.m.	Shadow 1½ times one's height.
10 a.m.	Shadow equals height.
11 a.m.	Shadow ¾ height.
11.30 a.m.	Shadow ½ height.
12 p.m.	Shadow is shortest (p. 84).
12.30 p.m.	Shadow ½ height.
1 p.m.	Shadow ¾ height.

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2 p.m.	Shadow equals height.
3 p.m.	Shadow 1½ times height.
4 p.m.	Arm at full length, eight fingers and two thumbs, held horizontally above line of horizon, should just reach height of sun.
5 p.m.	Arm at full length, four fingers and one thumb, held horizontally above line of horizon, should just reach height of sun.

Practice at above for a week or two will give the Scout the exact measurements of his shadow at different times of the day, and he will soon become an expert. If sunrise is earlier or late, or if in a different latitude, it will necessitate above table being changed slightly, which is easily accomplished.

The training in the use of the Prismatic Compass is fully explained in Chapter XIV.

It is impossible in this small book to go into the study of stars, but Scout Officers have been referred to a very useful book on stars, which they should carefully study and teach their Scouts accordingly (p. 123).

Scouts remaining out all night, in front of the outpost line, must have a pre-arranged signal, so that they may return to camp when necessary, without being interfered with by Sentries, Scouts, or Picquets. (Note, p. 75.)

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CHAPTER XXIX

WHAT TO DO WHEN LOST

MANY men have come to me enquiring anxiously the correct and best thing to do if they at any time lose themselves in the Jungle or elsewhere; in consequence these few notes have been written. A Scout should never be actually lost, but he should be trained to know what to do if he is temporarily lost.

1. If lost during the daytime, and not in possession of a map and compass (which, by the way, a Scout should always possess), and the sun is obscured, and there is no wind, climb nearest tall tree, and try to locate landmarks already passed, and retrace steps by this means. If no landmarks—viz., rivers, lone trees, railway lines, etc.—are recognized, look for villages, towns, or habitations, where one could possibly be directed (if in an enemy's country, this would possibly not be feasible). If none of above expedients are successful, look for very high ground, make for it at once, and scan the country. If you cannot, then locate yourself, retrace your own tracks, until you arrive at a point which is

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familiar to you. The bend of trees, or grass, or sand-drifts may help you in ascertaining the direction of the prevailing wind. If you happen to have a horse who has lived any length of time at the place you are returning to, mount him, give him his head, and he will take you home. Don't get excited when lost, don't stray about, and don't exhaust yourself; mark the place at once by hanging your coat on a tree or hoisting a handkerchief, then sit down and think the situation over carefully. If not in enemy's country and near friends, and in possession of firearms, three shots in rapid succession might bring assistance. If all above suggestions result in failure, wait for nightfall and guide yourself by stars or moon; if cloudy, by the wind; if no wind, light a huge bonfire on high ground and wait for friends to find you.

2. If lost in desert country during day-time, retrace tracks, or make for high ground; note drifts of sand for prevailing wind.

3. If in possession of map and compass, or map with sun visible, set your map, fix any prominent objects seen on ground and marked on map, and in this manner locate yourself.

4. If lost in a fog, on a dark night, or during a

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snowstorm without the help of map or compass, the bend of trees may help you, the direction of the wind, the direction the blizzard is coming from. Running water may help you to locate a river (a river runs towards the sea). A horse might be of great assistance, but a compass is invaluable on these occasions.

If your Scout has his wits about him, and has been trained properly, he will make numerous notes when proceeding on a Scouting expedition. Here are a few:

(*a*) All landmarks viewed from both sides in vicinity of starting-point and along the route. If necessary blaze trees, break twigs, dig holes, pile up earth, or drop paper at intervals.

(*b*) General direction he is taking and any deviation from this direction along the route.

(*c*) Prevailing wind and direction of wind when he started.

(*d*) Careful calculation of distances he has traversed.

(*e*) Constant reference to map.

(*f*) Careful entries of everything of importance in his note-book for reference.

(*g*) The general direction from starting-point of any railway lines, ranges of hills, rivers,

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woods, etc. If a long line of wood stretches away east and west and your course is north, when you return, strike south, or if you think your direction was a little east of north, return slightly west of south.

With the training a Scout gets nowadays it should be a practical impossibility for him to lose himself anywhere.

NOTE.—After tracking a rogue elephant for fifteen miles in thick jungle in Upper Burma, away from all civilization and in a country completely strange to the Burmans who were carrying our rifles, etc., with the sun obscured, one of the followers was asked to point out the direction of our Camp, and without hesitation he at once pointed in the exact direction, and led us straight back. We had worked round in a large circle, and were within six miles of Camp. This Burman was questioned as to how he at once knew the exact direction, and from what could be gathered, it was partly instinct and partly constant acquaintance with the jungle. Don't rely on these men after nightfall; let them point out the direction of Camp before nightfall, and at once take a bearing and march on *your* bearing.

CHAPTER XXX

SCHOOLS OF SCOUTING

SCOUTING being such a very important part of our Military rôle, it would appear to be absolutely necessary to have some kind of Central

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School of Instruction in each Command, with a Headquarter School, say, in London, with the object of having Scouts trained in a uniform manner all through the Service.

If the Dominions would also establish these Schools of Instruction, there would in a short time be no dissimilarity in the methods of training Scouts throughout the British Empire.

Scout Officers and N.C.O.'s from Regular units, Special Reserve, and Territorials could be instructed at these Schools.

If these Schools of Instruction ever become established facts, it will be necessary to have experts as instructors—Officers who have had practical experience of Scouting on Manœuvres and on Service.

At each Central School it would be advisable to keep a certain number of Scouts always in training. These men should, of course, be specially selected and well paid, and would be handled only by the Commander-in-Chief of that particular Command.

The Headquarter School would be responsible that Scouts in all other Central Schools were trained on identically the same lines. An Inspecting Officer from the Headquarter School should

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spend his time visiting all Central Schools, to see that no variations are brought into the syllabuses laid down.

CHAPTER XXXI

SUGGESTIONS

THESE suggestions must be taken for what they are worth; they are mentioned in the interest of the Service, and they should all be of valuable assistance in training Scouts.

Pay.—A little extra pay given to the Scout would be a great enticement; better men would volunteer, and they would stay in the class longer, without wishing to go in for promotion. All first-class Scouts should be drawing first-class proficiency pay—viz., 6d. per diem.

If the men in your class are working satisfactorily after three months' training they might be granted 3d. a day extra pay, and on receipt of the Scouts' Badge, which would be in not less than one year's training, they could be given another 3d., making 6d. in all. The N.C.O. would also receive Scout pay. The Scout Officer is well worth 2s. 6d. a day with all the extra work he

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has to carry out. If Scouting is really going to be a success in our Army, it must be paid for.

Bicycles in suitable country are an invaluable help to an Infantry Scout, not only in war, but in peace. Much ground can be covered, and schemes on new ground can be practised daily. In a country with good roads they are far superior to the horse. For night work they are silent, and if long distances have to be covered rapidly, they are indispensable.

Perhaps at an early date seventeen good bicycles will be placed at the disposal of all Infantry Regiments for the exclusive use of their Scouts. Let us hope this will be done. It would be received with great éclat by all Scout Officers. In countries where bicycles cannot be used, Government horses or mules might be requisitioned.

Scout's Badge.—The present Scout's Badge is apt to catch the eye at long distances, and the Scouts, above all persons, should be careful not to give themselves away. On khaki the Scout's Badge should be conspicuous at close quarters, and my suggestion is that a red letter "S" should be placed in a circle of plain khaki braid and worn in the same place as the present Scout's

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Badge—on the upper part of the right arm. On a tunic a similar Badge could be worn, only worked in gold. There would be no chance of this showing up in the distance, and yet it would be conspicuous enough for those near at hand. A bronze Badge is suggested as an alternative.

Field-Glasses.—Strong, reliable, prism glasses are of the greatest use to the Scout, and should be issued to him if possible. Zeiss or Goertz glasses are recommended. Good Field-Glasses are much more important to a Scout than a Rifle.

Mounted Training.—Training in mounted work is very necessary. All Scouts should be able to ride. Now the Mounted Infantry School at Longmoor is no longer available, the Scout Officer will find it a difficult problem to teach his class to ride. Some instruction might be obtained with the use of transport horses, and when on furlough, if the Scouts are keen, they might be able to get a little instruction. In India or Africa a Mounted Infantry course might be possible, and, if so, this is recommended.

Wrist Watches are mentioned as being a necessary part of a Scout's equipment. They are indispensable to a Scout and should be of

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good and reliable make. At the present time, unless the Scout Officer can obtain money from the Regimental Funds or else from his own pocket, the man himself has to purchase the watch. This is hardly fair on the Scout. Would it not be an excellent idea if the Government presented a Wrist Watch to every Battalion Scout on his receipt of a Scout's Badge? These watches could be given on the condition that they were handed over in good order on the Scout leaving the class. Watches could be re-issued again, and occasionally renewed by Government. Watches must be obtained from somewhere or other, so why not equip the Scout properly without extra expense to himself?

Automatic Revolver.—My suggestion is that the Battalion Scouts should be armed with Automatic Revolvers, which on Service they would always carry on their person. The Rifle could be done away with. After all, these men are not required for fighting purposes, but they do require a good, reliable, light weapon to defend themselves with, and which can be brought into action at a moment's notice.

The Rifle is sometimes difficult to conceal

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when taking cover, and adds considerably to the weight carried by a Scout, whereas a Revolver would hardly be noticed.

Scouts would naturally require an extensive training in the use of this weapon, but as they are, or should be, specially selected men, this course should not be difficult to undertake.

Dogs.—A well-trained dog makes an excellent Scout. Major Richardson trains dogs especially for this work. One dog per group should be kept in training (see Chapter XXXII.).

Dogs for night work are very necessary and useful, and for Scouts to have a reliable dog when kept out on reconnaissance for more than one day might very likely be the means of saving their lives, or at any rate of protecting them from surprise.

Why not have some kind of organization in our Army, so that if war did come along, we should be prepared. Don't let us leave it too late. Every Regiment in the Army should be in possession of at least twelve trained dogs in peace time.

The preliminary training could be carried out at a training establishment, and from there dogs should be drafted to the various Regiments.

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It has been proved that untrained dogs collected at the last moment in time of war are useless.

Schools of Instruction, which have already been referred to at length, appear to be indispensable; at any rate some modified form of School of Scouting might be started. It would bring about that uniformity of method which appears so essential in training the Infantry Scout.

Scout Officer.—What rejoicings there would be amongst Scout-Officer enthusiasts if the Scout Officer were granted his 2s. 6d. a day and was also made supernumerary to the Establishment, thus enabling him to devote his whole time to his special and important work, without either disturbing the duty roster, or putting his share of routine duties on other shoulders.

If the present-day Scout Officer is allowed off ordinary duties, etc., there will at once be a "grouse" from the remaining subalterns "that they have to do orderly work twice a week, etc. Why should not the Scout Officer do likewise?" But the Scout Officer should be the pick of the subalterns in the Regiment; his selection should be considered a great honour, and if the Schools of Scouting are established, he has a good chance of advancement if he works hard.

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The fact of having a specially selected Officer, who receives a little extra pay and gives the whole of his time to the work, *must* tend towards extra efficiency and more uniform method of training.

Regimental Sports.—It is seldom one sees Scout Competitions on programmes of Regimental Sports. If *all* Regiments encouraged their Scouts by giving them small prizes at the Annual Gathering it should help things along a bit.

Aeroplane Observers.—It seems to me that a large reserve of Observers is very necessary in our Aeroplane Service, and that a limited number, say six per Regiment, should be trained at the Flying School, to be used in war in times of emergency. The men selected should be highly trained Scouts, and the experience they gain at the Flying School should be of great assistance to the Army in general.

Various competitions could be held; below are a few suggestions:

1. Ride on bicycle ten miles and report on a position, or road, or river.
2. Carrying a wounded man.
3. Approaching skyline.

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4. Obstacle race, combined with observing figures along the course.
5. Signalling.
6. Drill.
7. Verbal messages.

There are many other kinds of competitions too numerous to mention here. One or two items on the programme for Scouts would no doubt be welcomed.

CHAPTER XXXII

SCOUT DOGS IN WAR

THIS book would be far from complete without a few words about the use of dogs in war. Many Generals in the olden times believed in dogs. Cæsar used dogs to guard his camps. Frederick the Great employed them with his Sentries. Napoleon wrote to Marmont on June 21, 1799: "They ought to have with them at Alexandria a large number of dogs, which should be fastened a short distance from the walls." Dogs were used in the Civil War of North and South America as Sentries, and also for tracking work. Dogs were used in the

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Russo-Turkish War of 1878. During the Franco-German War they were used by individual people, and in many cases with great success, but it is only in recent years that the subject has received scientific attention, and dogs have been trained in the following lines:

1. As Scouts and Sentries.
2. As Ambulance dogs.
3. As Messengers and Ammunition Carriers.

They rank in value in the order named. It is common knowledge that France, Germany, Austria, Russia, Belgium, Sweden, Bulgaria, and Italy employ many dogs for Military purposes. In Germany dogs are employed in guarding the fortifications and frontiers, a very important point being that the organization of Police dogs is perfect, and a scheme exists for the mobilization of all these dogs for use with the Army. All the above countries have good systems and organizations, and in case of war they have at once at their disposal large numbers of trained dogs. How is it that we are so behindhand? Dogs are invaluable for Sentry and Scouting purposes, and have on many occasions (too numerous to specify) saved armies

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from surprise.* Great credit should be given to those men who train these dogs, but why do not we make more use of them? Only ten Regiments of the British Army are in possession of these dogs, but every Regiment should have them, and at the rate of at least one per Company; and each group of Scouts should be in possession of at least one dog, making twelve per Regiment.

Major E. H. Richardson, Grove End, Harrow (late 45th Regiment, Sherwood Foresters), has very kindly written a few words on Scout and Sentry, etc., dogs, which are given below, and anyone wishing to go further into the subject cannot do better than get his most exhaustive book entitled "War, Police, and Watch Dogs," which is most interesting and instructive:

"All Scouts and patrols should be provided with well-trained dogs, especially at night. Many a surprise and ambush will be avoided as a consequence. The dogs properly selected for this purpose will be of suspicious natures with hearing and scenting powers highly developed. They will be aware of the presence of the

* In the recent Abor Expedition dogs saved the camp from surprise on two occasions.

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enemy long before the foremost men who are leading them.

"The Italians in Tripoli made use of dogs with both Cavalry and Infantry, especially for defending the trenches at night. They had altogether 600 dogs employed in Northern Africa, and they proved of great service. They also used them with the Cavalry for searching through the cactus for Arabs. In the Balkans I saw dogs used with Cavalry for locating the enemy, and they were used a great deal by Infantry for preventing night attacks around Adrianople. The Bulgarians placed them in small shelters, made of branches of trees, in front of their trenches, and they found them extremely useful, as they invariably warned the defenders of the approach of an enemy. Dogs were also used in the Balkans for guarding lines of communication, and as scouts in the advance, especially at night.

"Dogs were used in the Abor and Naga Hill expeditions, and the British Regiments that have made use of these dogs find them invaluable for night work.

"In the Russo-Japanese War the entire Trans-Siberian Railway was guarded by dogs, and to their aid greatly may be ascribed the reason

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that it was never cut. The Japanese often used dogs as scouts on long leads. Trained dogs did excellent work in the German South-West African War.

"It is practically an impossibility to get through a line of Sentries without being noticed if they are in possession of trained dogs, and in the same manner, if Scouts have dogs, they are prevented from falling into ambuscades. In close country trained dogs are invaluable, and must give the troops they belong to a great advantage over their adversaries. Dogs can hear about 400 yards further than a man, and when wind or atmosphere are especially favourable for scenting as well, detection will come at far greater distances.

"*Sentry Dogs.*—This is an invaluable duty on the part of the dog and the soldier. When taking his place with the Sentry, the dog quite naturally develops a strong protective instinct, and a well-trained Sentry dog, as in the case of the Scouting dog, is one with hearing and scenting powers of a very high efficiency and of an alert disposition. The dog will be found to act as a never-failing signal on the approach of a stranger, and will often wind a person long before any sound can be heard. After a long

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march in an arduous campaign, the Sentry may be physically incapable of remaining absolutely on the alert, whereas the dog is naturally much more keenly alert at night even than in the daytime, and will show no fatigue. I may here mention that where it is known the dogs will be required on urgent Sentry duty at night, they should not be allowed to exert themselves too much on the route, but should be carried on the Transport.

"*Messenger and Ammunition Carrying Dogs.*—Where I have in the foregoing remarks expressed my opinion as to the absolute soundness and invaluable service of the dog as a Scout and Sentry, I am not prepared to go the same length with regard to the help it can give as a messenger. That good messenger dogs cannot be trained I do not say; in fact, now and then one finds a dog that is capable to a certain extent of real service in this direction, but the training partakes much more of the trick nature, and the percentage of dogs capable of it is so small as to render this service of doubtful value.

"*Ambulance Dogs.*—Here, again, we have work to give the dogs on a sound basis, and is merely the development of those instincts inherent to

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the animal. In this case the stretcher-bearers or searchers should be provided with keen scenting dogs, and great assistance will be rendered by these, especially in enclosed country and at night-time."

NOTE.—Every trained dog doing duty with a Regiment must be cared for and fed by *one man*, and must not be allowed to run loose in barracks.

Sentries and Scouts must be trained to avoid becoming careless when on duty just because they have a trained dog with them. They must be trained to be always on the alert, and to be continually watching the dog and listening themselves, so that they may detect the approach of anyone at the very earliest moment. This is a most important point, and if not adhered to, is liable to make the dog a source of danger. These dogs are trained not to bark, but to denote the presence of a strange person by a low growl and a stiffening of the body. If necessary, a muzzle should be used.

In Belgium twelve dogs per Regiment are used for drawing machine-guns, and are highly satisfactory.

CHAPTER XXXIII

A FEW "DON'TS"

1. DON'T proceed on Reconnaissance duty without first obtaining information under the following headings:

(*a*) All that is known of the enemy and of your own troops.

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(*b*) Any particular points you are to give information about.

(*c*) The probable distance and direction you have to go.

(*d*) The place and person to which reports are to be sent.

(*e*) How long you are expected to be away.

(*f*) How reports are to be communicated.

2. Don't delay in sending back *important* information: make sure it is accurate before despatching.

3. Don't send information back that would be of no real value to the recipient.

4. Don't exaggerate.

5. Don't pass a landmark without studying it from both sides.

6. Don't expose yourself to view unnecessarily when reconnoitring; avoid skylines like poison.

7. Don't "lose your head."

8. Don't move in a straight line under fire; keep a zigzag course.

9. Don't carry any written matter on you that might be of use to the enemy if you were captured.

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10. Don't proceed on Reconnaissance duty and leave behind any of the articles already enumerated that you should carry on your person.

11. Don't forget to fill your water-bottle before going on Reconnaissance duty. To keep water cool, wet outside cover. Always take a supply of food; you never know how long you may be away.

12. Don't despatch a report until you have read it over and are satisfied that it is perfectly clear and that anyone can understand it.

13. Don't drink stagnant water. Good water is free from colour, smell, and taste. Train yourself to go without food and water for long periods. Cold weak tea made with boiling water is an excellent drink.

14. Don't retain any documents you may find left behind by the enemy; despatch them at the first opportunity to the "General Staff."

15. Don't imagine that Aeroplanes are going to do all the scouting in future wars, because they are not; any of the following conditions may prevent them from operating efficiently:

Wind, rain, snow, fog, darkness, enemy's artillery and rifle fire, and, lastly, defects of the machine itself.

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16. Don't forget the wind, especially at night, when reconnoitring near enemy's position. Always approach enemy against the wind.

17. Don't on any account speak above a whisper when reconnoitring near enemy's position.

18. Don't at any time separate yourself from your Rifle or Revolver.

19. Don't wear bright buttons, or anything that may disclose your presence to the enemy. The light of the sun on a bright object often shows up an otherwise hidden person.

20. Don't, whilst in India, drink impure water, dirty milk, bazaar minerals, and syrups. Avoid unripe or rotten fruit. Get inoculated against enteric. Keep fit, but if you feel ill, go sick at once. Never take your topi off whilst sun is up. Avoid alcoholic drinks before sunset.

21. Don't give any information beyond stating your rank and name if captured. By international custom in civilized warfare you cannot be punished for refusing to give any further information.

22. Don't become nervous if on service you meet an enemy's Scout. Remember that he is probably more nervous than you are, and not so

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well trained, and consequently not so full of resources.

23. Don't give any information away to women. In South Africa they carried on Intelligence work for the Boers. In every war women take a leading part in secret Intelligence work.

24. Don't forget, if in want of water and you have a horse, give him his head and he will take you straight to it. If alone, watch animals in mornings and evenings, or follow their tracks. Failing this, dig a hole with a pointed stick in very low ground. Or if salt water only is available, boil it, and absorb steam in cloth covering utensil; then squeeze fresh water from cloth into another receptacle.

My parting advice to all Scouts is to work, work, work, and be prepared and always ready to go on Active Service at any moment.

The fate of an Army may rest on your shoulders; your information may be the means of bringing about a victory or a reverse. Your task is a difficult one, and your training must be carefully and methodically carried out on sound lines. Remember that a Scout is trained to obtain reliable information and to submit it

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intelligently to the right person in time for action to be taken.

It takes months--possibly years—of training to become an efficient Scout, and even then you can always improve your education and help your country by studying foreign languages, foreign methods, customs and habits, etc., of those nations that there is the slightest possibility of meeting in the field.

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